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Why Married Women Choose to Wear Cotton or Silk

By Edna L. Clark, Bureau of Home Economics, U. S. Department of Agriculture

ONLY a short time ago women's undergarments, summer dresses and stockings were practically all of cotton. Today silk and rayon are prominent. How far have these materials been substituted for cotton in the different garments? What do the women themselves have to say in explanation of the change? To answer these questions a survey was made in the early summer of 1927 by the Bureau of Home Economic, U. S. Department of Agriculture, on the uses of cotton in clothing. The replies of 701 married women to questions on the kind of garments they wore five years ago as compared with today, and their reasons for changing, are given below. Replies of unmarried women will be analyzed in a subsequent article.

The 701 women were representative of localities in all parts of the United States. Of the total number 231 lived on farms; 132 in towns of under 5,000; 116 in towns of 5,000 and 25,000; 73 in cities of 25,000 and under 100,000; and 149 in cities of 100,000 and over.

A comparison between the kind of material which the 701 women wore during the year ending in the spring of 1922 and that which they are wearing now is given in Table 1. Silk and rayon have been grouped together in considering the percentage of women changing from cotton. This was done because, since so few schedules noted "more rayon," it seemed certain that the very large percentage of women noting "more silk" for certain garments undoubtedly included many cases of rayon,

It is interesting to note the variation in percentage of women reporting wearing more silk or rayon in the different garments. Stockings rank highest, with the other articles of clothing in the order named: summer dresses, slips, bloomers, winter dresses, chemises or teddies, undershirts, drawers, kimonos, blouses, petticoats, brasieres, nightgowns, housedresses, skirts, unionsuits, pajamas ,and bathrobes. The relatively low percentages of women reporting more silk or rayon for drawers, kimonos, blouses, petticoats, brassieres, nightgowns, house dresses, skirts, unionsuits, pajamas, and bathrobes is indicative of the importance of other materials than silk or rayon for these garments, or of the fact that these garments are no longer worn.

Of course, in no case do the figures show that silk or rayon have completely replaced cotton in any garments for which the change is noted. They merely indicate that a certain percentage of the women included in the survey were wearing more silk garments of certain kinds now than they were five years ago. Some women may have worn silk summer dresses only on very special occasions during the past year, but five years ago not have worn them at all; or, some women a silk garment, such as a slip, may have replaced a cotton underskirt. But in both cases the result would be that more silk or rayon was worn than five years ago.

The opposite side of the picture is shown by an analysis of the replies for "no change" given in Table 1. "No change" probably refers, in the majority of cases, to cotton worn five years ago and still worn. Because of the relatively large number of women indicating cotton in this connection, it is undoubtedly safe to conclude that for aprons, underwear, and night-garments, "no change" refers to cotton. "No change" for stockings, however, could not be so interpreted, inasmuch as a large number of women had made the change from cotton to silk or rayon in their stockings prior to 1921.

The largest percentage of women reported "no change" for aprons, the next highest for nightgowns, and so on. .

The percentage of women reporting "never worn" indicates the popularity of the various articles of underwear and night garments. For example, the preference for nightgowns is clearly seen when 76 per cent of the women reported that they did not wear pajamas now nor five years ago, while only one per cent reported "never worn" for nightgowns. It is interesting to note that 33 per cent of the women reported wearing petticoats five years ago but not during the past year; 29 per cent so reported for blouses; 29 per cent for skirts; 6 per cent for union suits; and 5 per cent for chemises.

The proportion of women who changed from cotton to silk or rayon for the different articles of clothing varies with the different residence groups. Table 2 shows the percentage of the 701 women, classified according to residence groups, who reported wearing more silk and rayon during the year ending in the spring of 1927 than during the corresponding period five years ago.

In general, the farm women made the least change in material, while the women living in towns of 25,000 and under 100,000 made the greatest change. If the residence groups are arranged in the order of farms; under 5,000; 5,000 and under 25,000; 25,000 and under 100,000; and 100,000 and over; and the percentages reporting "more silk and rayon" compared, we find that for the following list of garments the percentages increase from farm up to the 25,000-and-under-100,000 group, and then fall for the 100,000-and-over groups: summer dresses, skirts,

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TABLE 1

		—Proportion of women reporting—		
Garments	Number of persons reporting	Never worn per cent	No change per cent	More silk or rayon now than 5 years ago* per cent
Aprons	652	1.99	93.25	.30
House dresses	495	.61	79.39	11.91
Summer dresses	605	—	32.23	65.62
Winter dresses	539	—	38.78	46.94
Blouses	518	33.20	22.97	16.41
Skirts	451	27.72	32.37	7.10
Slips	635	.31	25.98	65.20
Petticoats	490	30.20	20.82	16.32
Chemises and teddies	598	22.74	30.27	43.32
Brassieres	591	18.78	61.93	13.54
Bloomers	623	19.90	21.03	56.17
Drawers and step-ins	554	41.52	31.41	23.29
Undershirts and vests	588	23.13	39.97	35.20
Knit unionsuits	571	24.34	52.89	5.78
Nightdresses	669	1.05	85.95	12.56
Pajamas	560	76.07	18.92	4.11
Kimonos and negligess	615	10.57	64.88	21.14
Bathrobes	572	16.61	71.33	2.97
Stockings	668	—	22.60	77.99

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*The number of women reporting garments made of silk or rayon which were worn now but not five years ago have been included in the percentages reporting more silk and rayon.

TABLE 2

	—Percentage reporting more silk and rayon—				
Garments	Farm Per cent	Under 5,000 Per cent	5,000 and under 25,000 Per cent	25,000 and under 100,000 Per cent	100,000 and over Per cent
Aprons	.47	—	—	1.43	—
House dresses	6.21	7.07	23.53	22.45	12.74
Summer dresses	61.34	62.50	74.00	74.24	63.91
Winter dresses	46.39	43.81	37.77	62.26	50.40
Blouses	8.55	15.09	29.07	21.74	14.84
Skirts	2.42	3.45	10.84	12.20	7.76
Slips	42.06	61.82	67.25	80.28	60.96
Petticoats	7.74	15.46	20.45	24.53	15.45
Chemises and teddies	30.81	47.78	48.04	57.81	34.32
Brassieres	8.24	11.71	13.08	23.64	13.97
Bloomers	45.41	53.39	49.52	65.22	47.45
Drawers and step-ins	11.98	22.43	31.18	36.36	23.48
Undershirts and vests	20.33	37.16	38.61	53.23	34.61
Knit unionsuits	3.28	3.77	7.61	8.62	5.31
Nightgowns	4.61	8.07	17.12	25.72	18.37
Pajamas	.54	18.03	28.00	30.65	27.34
Bathrobes	1.65	1.80	7.29	—	3.97
Stockings	86.98	80.95	71.93	78.87	66.20

Master Mechanics Have Interesting Meeting

The Master Mechanics Division of the Southern Textile Association, meeting at Spartanburg, S. C., November 16th, had a very interesting and valuable discussion of a number of power and engineering problems. The meeting was characterized as one of the best technical meetings that any Division of the Association has ever held.

The full report of the discussion is given herewith.

The Chairwan: Gentlemen, we have tried to arrange this meeting on a little different plan from the two meetings we have heretofore held. Instead of having any prepared talks or papers on any selected subjects, we decided that it would possibly be best if we would go direct to the mills with an inquiry concerning their most important or acute problems in this line of work, and from the replies that we hoped to get, select a number of subjects which would be absolutely first-hand and practical subjects.

We got from those inquiries about thirty some odd replies, subjects of very live interest, and we have selected a number of those that we are going to ask you to discuss, and we want this meeting to be just as informal as possible. This is not a case of going to church, or going out to hear a speaker talk, or anything like that. We have asked you to come here to help each other in discussing the things that you are thinking about right now, and the first subject that we have selected here comes from a mill and I am going to state the subject in the same words that that reply came in: "Burning too Much Coal Due to Fireman, with the remark that "Good Firing is very important to Keep up Steam and Keep Down Coal Bill."

I am going to ask any man to state his own experiences with hand firing, and if he has succeeded in making improvements in methods why we want to hear about that. I am going to invite anybody to get right up and state his experiences concerning hand firing.

Gentlemen, it seems that nobody wants to start this thing off. I will start it myself by saying I am one of those unfortunate ones who have to depend on hand firing in my plant. I have two batteries of two Sterling boilers each, and each battery is fired by a negro fireman. One is called the head fireman and is the water tender; the other fireman has nothing to do with the water at all; has nothing to do but fire the boilers, and my experience with negro firemen, going back over a period of twenty years or more, is that out of all the negro firemen I have had in boiler houses which have been in my charge, I can't pick out but three men I would call firemen.

One of those men was an outstanding case, but unfortunately he had those qualities which made him in a way undesirable, because he wouldn't take a regular job firing; he would always come and help in an emergency, and he was one of those men who it seemed naturally knew how to burn coal. He would always burn less coal than the man who was on the job regularly, and he was an excellent fireman if he would take a regular job, but he wouldn't.

But to get back to my present situation, I believe you all know there are several methods of hand-firing, one of which is generally known, I think, as the "coking" method, with which you are probably familiar. You may have experimented with it. The coal, fresh charges are fired on the front part of the grate; allowed to stay there long enough to coke, and levelled back after the gases have been distilled off, and a fresh charge put there to coke.

Another method of using coke fire is to fire your fresh charges to one side of the fire and rake that over after the gases have been distilled off.

Personally, after experimenting with all these methods, I have settled on "spread" firing, which I believe is better, and you all know that means putting the fresh charges as evenly as possible all over the grate surface, but one of my troubles was I would go into the boiler house and stay there long enough to get these firemen to fire the boilers like I would want it done myself, and if other things call me away when I come back I find what I call "rat" holes in the fire, which are spots where the fuel has been burned away and the fresh air rushing up through there, and of course he has been firing to the front of the boiler all the time and the Lord only knows what is in behind what you can see in front.

Those are my experiences, and one of the things I have done lately to try to put my two firemen on a common basis, is to make them exchange batteries every hour, instead of one man firing this battery all the time, and the other battery all the time; I let this man fire this battery one hour and change him down to the other boiler the next hour, and in that way get uniform firing in all four boilers. That is as far as I have gone, so far.

A Member: In case of one man being a poor fireman and the other good, how can you distinguish between the work of the two, if you interchange the firing?

The Chairman: You can't very well do that. My idea there was to secure uniform work from the two men. Unfortunately, I don't believe you can get two good negro firemen in a plant where you use two firemen.

A Member: You get more uniform operation of your boiler units than uniform work, didn't you?

The Chairman: How's that?

A Member: The uniformity you would get would be more in the operation of your units, rather than in the uniformity of the work the men do; one would be doing poor work on one boiler the first time and the other the second time.

The Chairman: On the other hand, the good man will have a tendency to keep the other man's fire in better condition.

I am going to begin down at this end and ask this gentleman over here if he has had any experience in his plant, Mr. McWhirten, of the Monarch Mills, at Union, S. C.

Mr. McWhirter: We have stokers, and we have been experimenting for the last few months in our plant, and this year we have put in new boiler headers and we have made a considerable saving in our charge. We had the old type of headers, we will say 22-inch headers. We have six, 200 h. hp. coke boilers, and a battery of Sterling boilers, and this header reached the entire length of the boiler, and we changed headers and cut our headers from a 22-inch down to a 10-inch header, and I will admit I haven't paid so much attention to the firing, as you know stokers if they are in proper shape and in good condition will take care of those, that is if you have your stoker bars and your stoker fan in good condition they will take care of the fire better than you can with hand firing.

My experience was, I have been with Monarch two years, I found I had so much condensation in this big header, I began to work for a new header, which the company gave me. We changed all the bins on our boilers; we had two headers, a low pressure header and a high pressure header, for the turbine and slicer. We put in a 10-inch header about half the length; run our bins over into this heater and in place of about 60 feet we only have about 25 feet, but there are other boilers connected with it, connected with this 6-inch bin and this 10-inch header. We found after we got the header in that that was some saving, but my biggest saving in coal has been from exposure of pipes. We have tried for the last few months to cover up every pipe that has steam, cover it up, and our first month, the first of July the test I made of weighing my coal and referring back as far as 1924 and comparing July to July, 1927, after covering our boilers, or the piping, our saving in coal was somewhere around 75 to 80 tons a month, which coal laid down in the yard costs you something like $5.00 a ton. We made a considerable saving there.

I laid it to the fact it was by taking care of all the exposed pipe to see that it was properly covered. But the stoker—going back to the stoker—stokers that work have an inclination to stir the coal, which will cause more clinkers than hand firing, and especially where you have stoker fans. At least I haven't found a way to overcome it to keep the stoker from clinking.

The Chairman: When you installed stokers did you burn the same grade of coal afterward as you did before, or did you burn a lower grade?

Mr. McWhirter: Well, you can burn a lower.

The Chairman: What I mean was, do you burn a lower grade?

Mr. McWhirter: I burn a lower grade.

The Chairman: There is a saving there in the price of coal to start with.

Mr. McWhirter: Yes, sir. Now we are burning some coal that I think only costs about fifty or sixty cents at the mine. We had very good success with it, but still we couldn't coal our plant successfully on coal of that kind, but for ordinary heating of the mill it was all right.

As I was going to state about the stoker business, the stoker—I understand somebody has been experimenting with the stokers by taking out this movable grate bar. I don't know whether that is practical or not. It have been thinking of trying it to keep from stirring my fire.

I have had plants where we had hand firing and I have come in and seen the fireman with a rake, raking his fire all over. When you see a fireman doing that he don't know how to fire. He is simply running his coal altogether, and the more you stir it the mor eclinkers you have. At least that has been my experience with hand firing.

The Chairman: I wanted to ask one question, Mr. McWhirter. Have you any records in your plant that show the economy of stoker firing over hand firing in your plant?

Mr. McWhriter: Well, yes, I have some. There is a considerable saving, and in under-feed stoking you absolutely get all the gas. When I pass by the plant and see this black mass boiling from the stack, I either say, "There is somebody not on the job with stokers," or, "He is hand fireman." You never see, where you have your stokers in good shape, you never see the black smoke coming from the stack. You are burning that. You get the benefit of all the gas in the coal by stokers. You can't compare hand firing with stokers. You can burn lower grade coal and you get much more benefit out of your coal.

The Chairman: One moment when you stated stokers would take care of those, I judge you meant after you got your stokers in operation and adjusted to your load condition. That's what you meant?

Mr. McWhirters Yes, sir, provided you are connected up with automatic regulators; connect your regulators and your stokers and then all you have to do it watch your water and keep your hoppers filled up; the automatic regulators will take care of that, and will do it much better than depending on your firemen.

Every time I hear a boiler pop I tell my fireman, "You have lost $5.00 of your company's money," and directly your steam is down low and that is hard on your engine, or turbine or whatever you are operating with, but if you have an automatic regulator connected in with your stoker bin and your stoker, you can use any kind of fireman and go along successfully, but where you are firing with hand firing you have to have, as you said a few minutes ago, some sure enough fireman, and they are hard to find.

The Chairman: Well, the next gentleman, will you give your experience with hand firing?

T. A. Watting, of the Wallace Manufacturing Company, Jonesville, S. C.: I don't know whether I could say anything that would be of any help to the meeting or not, on the coal proposition. We don't use but very little coal down there. We buy our power. I think I will let some other gentlemen who has a lot of firing to do take up the time.

A Member: We have stokers of the standard type. It takes about ¾ pound less coal per h. p. for the coal we burn in a stoker than hand firing, and use a cheaper grade coal. A washed coal has very little clinkers in it. The coal we get that is unwashed, we do get clinkers.

The Chairman: You gentlemen who have stokers now, your plants were hand fired before you installed stokers, were they not?

A Member: Yes, sir.

Hand Firing.

The Chairman: Then you must have had cases of bad firing when you fired by hand, did you not?

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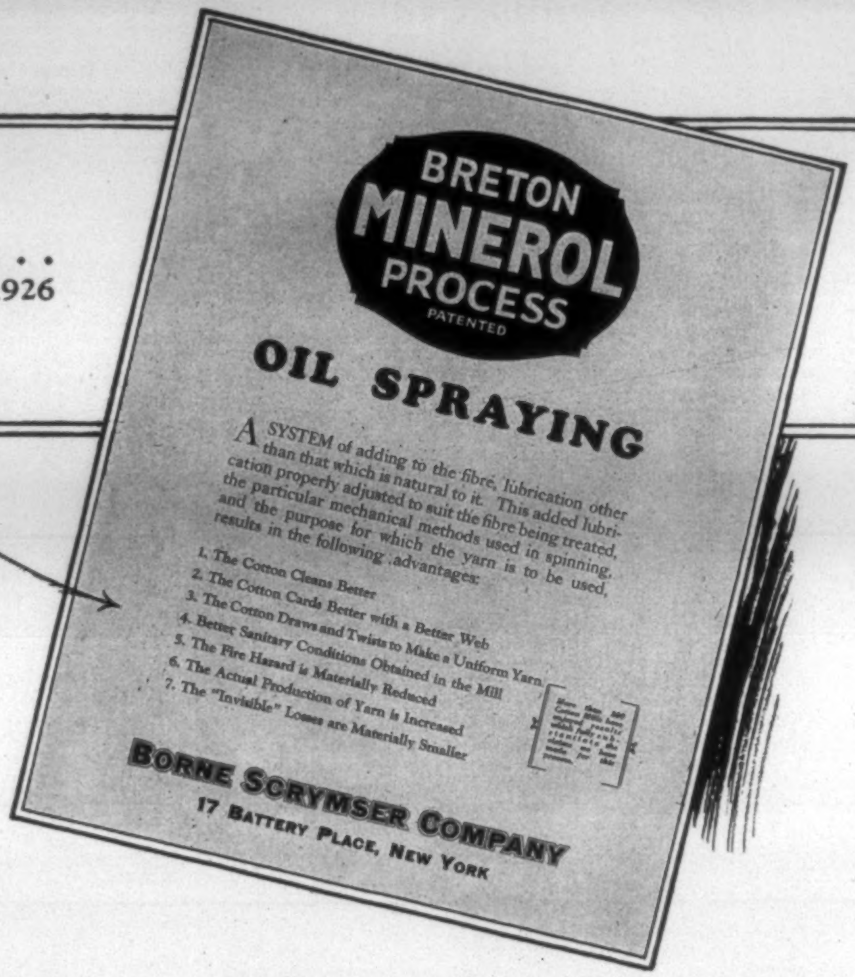

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4. Better Sanitary Conditions Obtained in the Mill
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6. The Actual Production of Yarn is Increased
7. The "Invisible" Losses are Materially Smaller

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17 BATTERY PLACE, NEW YORK

Now–
Let These Several Mill Men Tell You About Oil Spraying!

1. The Cotton Cleans Better

"Now I have less fly at the cards and the web is cleaner and more even than before."—*J. O., May 12, 1927.*

2. The Cotton Cards Better with a Better Web

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3. The Cotton Draws and Twists to Make a Uniform Yarn

"Our numbers are kept nearer the correct weight, as we find that atmospheric changes affect us very little."—*G. K. T., September 9, 1927.*

4. Better Sanitary Conditions Obtained in the Mill

"So far as the Blowing Room and Carding Engines are concerned, I am perfectly satisfied. There is a noticeable decrease of dust and fly about the machines."—*H. C., April 29, 1927.*

5. The Fire Hazard is Materially Reduced

"We regard your oil and process of using as quite helpful to us in the matter of keeping down flying and reducing effects of static."—*F. P. G., September 22, 1927.*

6. The Actual Production of Yarn is Increased

"The cost of about fifteen cents for treatment of a 500-lb. bale of cotton, in my opinion, is the best investment a mill can make, as the returns are many times the cost."
—*L. E. A., October 4, 1927.*

7. The "Invisible" Losses are Materially Smaller

"We have used this oil for about two years and find we produce more and better yarn from using it."
—*W. J. P., October 21, 1927.*

NOTE—*The foregoing are excerpts from letters on file. Complete copies may be had upon application.*

BORNE SCRYMSER COMPANY
17 BATTERY PLACE, NEW YORK

Master Mechanics Have Interesting Meeting

(Continued from Page 8)

A Member: Yes, sir; you have that all the time by opening and closing the door, turning cold air in the furnace.

The Chairman: I wanted to learn the measures you took to overcome the bad firing.

A Member: That statement you made while ago about finding two or three negroes out of several years, I was studying I have only had two in ten years experience that I call near firemen—that is hand firing.

F. H. Coleman, Laurens Mill, Laurens, S. C.: We are firing but one boiler, although have had much experience with hand firing, and most all I have ever tried, is an even, smooth fire; that is, keep your fire scattered all over the grate so as to keep your air holes stopped, is the way I have been trying to fire all the time, and of course everybody knows that ever had any firing done, that that is hard to keep the fireman doing, because he will fire to keep from scattering his coal. That's the only experience I have had it with hand firing, and that's the way I have always tried to run, to keep an even, smooth fire, and if you keep that you have a job. Generally speaking you keep right after the fireman, and it is a proposition all the way to get a fireman to do it.

A. W. Way, Edna Cotton Mill, Reidsville. N. C.: My experience with hand firing is a good deal like yours. You can regulate a hand fireman but you can't keep him regulated. He won't stay put. You can watch him and get him to firing just like you want him and leave him two or three days and come back and he has gone back to his easy way of firing, and if you pin him right down and make him fire your way it's only a little while until you have to regulate another. That has been my experience in twenty years with hand firing. We know how a boiler should be fired. I agree with you on the spread fire, but I have found it absolutely impossible to keep a man firing that way I have never had experience with stokers, but I would appreciate a stoker, something that would stay like you put it.

M. J. Mitchell, Mollohan Mills, Newberry, S. C.: The firing business is just like the gentleman has said, it is mighty hard to get a fireman. We all know that, and the result is to keep a smooth fire and keep your air pockets out of the grate. I have found that damper regulation plays a big part in the cost of firing. Now you know generally you go into a boiler room and you find a big old weight hanging on your damper, and you open it wide open and let it go. Now, I have been at one or two plants where I changed that; just make you a worm gear and slip it on the end of your damper and bring you hand wheeldown where you can regulate that, and get your draft just where you want it and stop it there. That may not do for a great big load, and still it might too. You can regulate it to carry your load, but I think there is a whole lot of saving in that. That's about all I have to say.

There is a question I would like to ask Mr. McWhirter. He says he gets the benefit of all his gas with the stoker. I would like to ask why this is. Why if you hand fire right and keep a good, smooth fire, why would you get the benefit of all your gas? Wouldn't you lose some?

Advantages of Underfeed Stoker.

Mr. McWhirter: Well, I will answer this question by saying this. When you use an underfeed stoker your live coal is going underneath. Your fire is on top and whatever gas is in that coal it is absolutely underneath the fire, and how is the gas going to escape without coming through the fire and being burned? That's the way you get the advantage of that. An underfeed stoker feeds under your fire, feeds up in it and pushes out; your fire is burning on top and you absolutely get the benefit of all your gas. If you didn't you would see it coming out of the stack.

G. G. Queen, Oakland Mill, Newberry, S. C.; We don't use enough coal for me to say anything at all. We only use it for heating purposes and I would like to hear these other gentlemen. Mr. Mitchell answered what I had to say on draft regulation. I have a draft regulator, and I find it of great help.

Draft Regulation.

The Chairman: I was waiting for someone to bring in that subject, because we all know draft has a great relation to the efficiency of your fire.

W. G. Young, Kendall Mill, Thrift, N. C.: I couldn't say anything more than we all work on the same lines, Mr. Mitchell and Mr. Queen and myself, and we have had a little experience in this draft efficiency also. Recently Mr. Hallett, our general manager, came up the other day and called me into the office and said, "I want to show you something." He showed me a sketch of a draft regulator. He said "I was in Mitchell's place and saw this in operation," and I said "You haven't been in the boiler plant lately; I have had that on for three months, and I'm going to have hims arrested for infringing on my patent." (Laughter.) But I wouldn't be surprised if that didn't come about by Mr. Clark; however, it is a good thing.

Speaking of bad firemen, I only have one negro fireman and I didn't know there were but two in the world and I thought he was both of them. (Laughter.) I will say that due to a change in firemen I saved 33 1-3 per cent of coal in one month, on a night shift, so there must be something in training a fireman.

The Chairman: The human element has something to do with it, hasn't it?

Mr. Young: Evidently.

Good Hand Firing.

W. B. Heaton, Balfour Mills, Balfour, N. C.: I happen to have one of the latest improved plants. I have stokers and everything else on my plant, and white firemen. (Applause). I used to have lots of trouble with hand firing in the oil game, but when I took the job at Balfour I went back in the mountains and hired some men and brought them in and taught them how I wanted them to fire. I took the regulators off my stokers altogether and because it absolutely fed so much coal in I didn't care to buy that much. I took the automatic off the stokers altogether; I burn about 1.9 pounds coal to the kilowatt hour, with steam pressure, office, community house and mill.

The Chairman: That is all included in the figure you have named?

Mr. Heaton: Yes; it is all Clinchfield nut and slake; sometimes it looks like dirt. So it has been so long since I have done any firing I have forgotten what I did do.

The Chairman: There is a question I wanted to ask you. You spoke of running your stoker so very slowly. Does that mean you have excess boiler capacity?

Mr. Heaton: I have in the plant with the load I am pulling. I am pulling 750 kilowatt hours. We have 1000 kilowatt hours maximum, and another thing I cut the steam pressure from 250 to 235. As long as we kept it 250 we kept our engine vibrating all the time. I cut it and it worked out.

Reduced Steam Pressure.

The Chairman: Did you find the over-all economy was affected any by cutting the steam pressure?

Mr. Heaton: No, sir. The high steam pressure was naturally too high for the turbine. When she would get up there she would go to vibrating.

The Chairman: The turbine was designed b ythe maker for a 250?

Mr. Heaton: Yes; 250, so we kept tearing up thrust bearings and one thing and another and kept a service man there all the time and I told Captain a month ago I was going to try cutting the steam pressure, down and he told me to go ahead, and I did.

W. A. McKee, Piedmont Mill, Greenville, S. C.: I just have a small boiler for we only use it for heating purposes and dyeing. Of course, it is hard to get a fireman, especially a negro to fire like they ought to fire. I believe that's all. It's a small plant.

B. W. Thompson, China Grove Cotton Mills Company, China Grove, N. C.; I have a small plant where I am now. I have had charge of one or two plants that had larger steam plants than I have now and they have all been hand fired, and I have been in a lot of plants where we had hand firing, and I always set the grates 3 inches lower behind than I do in front, and then I carry a level fire, and that gives you say starting 3 inches heavier fire in the back and thinner all the way to the front. On that account your draft is heavier as it goes back and I have on several occasions where I have been burning 25 pounds of coal to the square foot of grate surface, I have cut it down to 20 pounds.

The Chairman: This saving you speak of, do you attribute that to any change in method of firing or simply to the method of setting the grate?

Mr. Thompson: I think most of it is due to the grate. Then I have that damper control that the gentlemen spoke of. I always put those on where I have that installation. You see you can handle your draft so much better. You pull it through and suck your gas out without getting it ignited.

The Chairman: Now, to get back to this question we were discussing, it has been noted that of all the talks that were made on firing, and in which the question of clinking was made, nobody offered any explanation as to why clinkers were formed in a fire under a boiler.

What Makes Clinkers.

I wonder if somebody has ever studied that phase of hand firing, have you succeeded in finding out why you have clinkers? Everybody knows clinkers are bad things. How about somebody telling us why you have clinkers; what you have done to avoid having more clinkers.

A Member: Dirty coal.

A Member: Poor firing.

The Chairman: Just what do you mean by that, please sir?

A Member: That is someone on the job that don't know how to fire.

The Chairman: That doesn't know how to handle the fire?

A Member: Yes, sir.

The Chairman: For instance, it has been brought out that stirring your fire was a bad proposition.

A Members Stirring your fire too much and putting too much coal in at one time.

The Chairman: Will somebody please tell us why stirring your fire at the wrong time and stirring it too much or putting too much coal in does make clinkers?

A Member: Puts your green coal on your grates instead of burning up your clinkers; putting in green coal and stirring it before it has time to coke puts your green coal on the grate and it is not hot enough there to burn the coal and it lies there and clinkers.

A Member: It is more the grade of coal, I should say. I have burned some coal you couldn't clinker and I have burned some you couldn't keep from clinkering. You have to study your coal and the best way to get around it. You can't hardly keep it from clinkering.

The Chairman: Is it a fact that a clinker is the fused mass of incombustible material in the coal?

Mr. Thompson: Well, to some extent; not always. You can take coal that is not of that type and clinker it in improper firing. To some extent that is the answer, but not altogether.

A Member: Isn't it if you get the green coal in the very hottest part of your fire that you get your clinkers?

The Chairman: What do you gentlemen think about that? Poor draft regulation, I judge you mean by that, lack of sufficient air.

A Member: Not enough, or too much.

The Chairman: How about that, somebody who has experimented on the draft side of firing?

A Member: My experience is it takes a hot fire to make clinkers, and if your load is small enough so that you don't have to force your fire and get it too hot, and have to stir it along, you can get by without clinkers.

My experience is there is some coal you can't clinker. I have had coal I couldn't clinker. I have tried it.

The Chairman: Well, when you had that particular coal did you endeavor to get your purchasing agency to settle on that particular coal?

A Member: Yes, sir; that was my object, to prove that it was a better grade of coal.

Shaking Grates.

The Chairman: Well, now, one other point I want to ask before we leave this subject. How many men in this audience have shaking grates in hand fired furnaces? Raise your hands please. (6)

Would you rather have shaking grates, those of you who have shaking grates, would you rather have those than to have grates of the non-shaking types. (1) How about the other gentlemen who have shaking grates?

A Member: I would rather have shaking grates.

Mr. Thompson: I don't know what kind it is, I have one boiler that has a shaking grate, and one with a stationary grating, and the stationary grating has it beat a thousand ways.

The Chairman: I have shaking grates in all my boilers, and I have not been able to get those grates shaking at the proper time, and I know those grates are shaking at improper times, consequently I have a considerable waste of fine coal in my ash. Do you other gentlemen who have shaking grates have that experience?

A Member: That has been my experience. I have gone back to the stationary grates.

Scale in Boilers.

The Chairman: Well, gentlemen, the time has passed very rapidly and we have only covered so far this one subject. I have another that ties in fairly well with that, and of course all of us have boilers and are interested in this proposition. "Scale in your Boilers." We would like to know if you have taken any check on your boiler operation to determine the effect of scale on the economy of your plant, and if you have done to correct that condition. Now scale is an old friend of all of us—I say "friend," I mean an old enemy. I suppose we all know something about scale. Like a man's poor relations, it is always with us.

A Member: I have very little scale.

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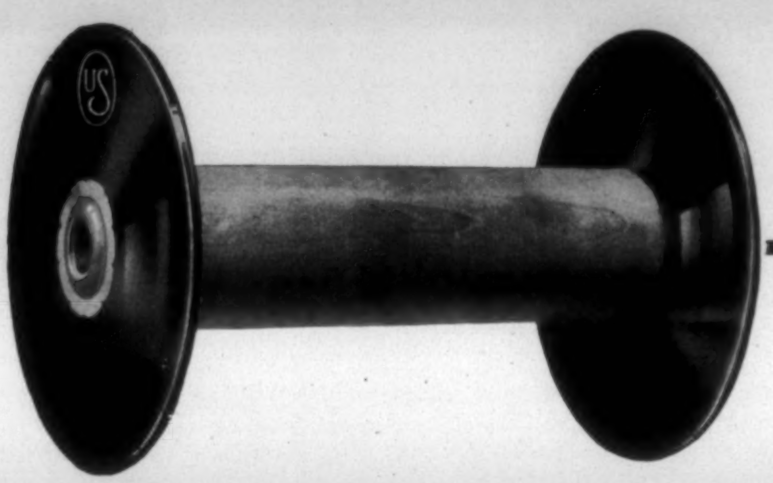

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Master Mechanics Have Interesting Meeting

(Continued from Page 10)

The Chairman: Do you treat your feed water?

A Member: No, sir.

The Chairman: Do you use anything in your boiler?

A Member: A little kerosene.

A Member: I would like to hear from someone who has had experience in using water softeners in connection with their water. I believe Mr. West has one. I don't know whether he has started using it or not. In our plant we have one. We have tried both ways, well water before it has been treated and afterwards. I would like to hear his experience in regard to that scale.

The Chairman: You say you have tried well water without the softener and with it? What has been your experience?

A Member: We didn't have any scale hardly at all before, but we have a formation now. We know what it is, or at least we think we do, but I would like to hear his experience.

The Chairman: Did I understand you have a formation of scale after you treat?

A Member: We didn't have before, and we do now.

The Chairman: And you are treating your water now?

A Member: It has a lot of salt in it, but it is supposed to be taken out by a backwash, the salt, but I don't know whether that aluminum sulphate we treat the water with whether that is creating the formation or not.

The Chairman: What is the temperature of your feed water entering your boiler?

A Member: About 180; Webster heater.

The Chairman: Mr. West, do you use the softener?

Water Softening.

Mr. West: Yes, sir; but my experience with the softener is you can filter and get the mud and make it clear, but yet you don't get that stuff out that forms the scale, and I expect it goes through the softener, and the softener kills it so it won't form the scale, but it still forms that sludge and you get it. I do not have any trouble with scale, but the vegetation and foreign matter in this clear, filtered water after it passes through the softener then the softener doesn't take that out of the water. In other words, it just kills it. It is dead; you can't see it in the clear water, but when it goes into the boiler it accumulates a sludge. A lot of people think they don't get any foreign matter in the water after it is softened, but they do, but it doesn't make a scale. It doesn't in mine.

The Chairman: Anybody else something to offer on scale, or scale trouble, what you have done to correct that? Just for the interest there might be in it, I will take up a few minutes myself to state I have made some very careful checks with my boiler plant to determine, if possible, the effect that scale had on the economy of its operation, and I was very much disappointed because I had all my life been led to believe that the presence of even a thin film of scale in my boiler increased my coal consumption very materially. These checks I made on coal consumption failed to reveal that as a truth.

Scale Did Not Affect Coal Consumption.

We went about this proposition this way. We had the coal consumption of our boilers by the week, during the period of one year between cleaning times. During that year we used absolutely nothing in the boilers. We operated with same feed water; there was no change of any kind and the coal consumption at the end of the period was a matter of record.

We went into those boilers with air chisels and air turbines and cleaned them. I don't mean we scaled those boilers like some of us scale them sometimes, but we took pains to do it. After we started up with absolutely clean boilers my coal consumption was exactly the same thing. I found no difference whatever. I might state the scale condition in my boilers I don't consider bad. I do have scale, and that scale varies in thickness from 1-32 of an inch in places to as high as 3-32 in other places. It is not a uniform coating by any means. Now, I have seen scale out of boilers that ran up toward 1-2 inch think and I imagine if I had scale like that in my boilers I would burn all the coal in the world, and I would be taking some pains to get rid of it, but the statements I have just made are facts and are matters of record in our plant, and I don't find the amount of scale we had affects the economy of the plant's operation.

Think this thing over. There is another feature of scale that is not exactly in accord with what lots of people tell us about scale. If your feed water has any chemical of any kind that tends to start corrosion in the metal of your boiler, it seems to me a thin film of scale in that case would be beneficial rather than harmful, and I believe I would prefer to have a small film of scale on the metal of my boilers than to have an absolutely bright surface there all the time, if my water had any corrosive properties.

Any of you other gentlemen had any experience with scale in your boilers? Has anybody taken any pains to find out if scale did affect the economy of the operation of your boiler plant?

A Member: I had practically the same experience you did a number of years ago. Our boilers were infested with scale. We used well water and we had a knocker, and I had four little tubes in the boilers, and I took 1600 pounds of scale out of the boilers. We thought that we wouldn't need any more coal at all, but we could tell practically no difference in the coal consumption after that scale came out than what it was before. I had always been taught that ⅛-inch of scale meant 25 per cent more coal, and we were all astonished that there was no more results than there was. I have paid very little attention to water compound propoganda since that.

The Chairman: I have some figures here of scale I would be glad for any of you gentlemen to see after the sessions are over. The might be interesting to some of you.

Making or Buying Machinery Parts.

We are going to pass that to a subject which is very close to my heart, and I found out it is very close to some of the others, and it gets out of the power plant field a little bit, and I will read you the question this mill sent in: "What parts (that means machinery parts, of course) should be bought and what parts should be made, keeping not only cost, but speed, quality and production in mind."

I have a partial list of the parts which one well known Southern mill has found it possible and profitable to make in their plant, and while they state this list doesn't cover the whole field of what they have found it profitbale to make, there are about ninety some odd items here, and I am going to read the name of a few of them: Elbow levers, latches, bunter, bobbin chute, parallel tongue, let-off rod, swing stand, pick stands, take-up eccentric, cam shaft gears, cam shaft gears hut, rocker shaft bearing, Pittman stud, pick gear stud, Whitin protection rod, treadle stirrup, delivery shaft, delivery gear, battery shafe, let-off shaft, let-off handwheel, take-up collar, delivery shaft collar, picking shoe, tension rod, treadle shaft, brake rod, treadle block, wooden binder, parallel block, harness shaft, cam shaft, cam follower, rocker shaft(made from discarded cam shaft) breast beam lever, protection rod spring collar, spring rod, snake head, Whitin loom tight pulley, square lay washers, sweep studs, crank shaft (made from two discarded or broken one) binder bracker, take-up catch stud, latch, let-off pawls, slack pawls, cloth roll handle, elbow levers, handle pinion, take-up yawls, belt shipper stands, ratchet gear, take-up shaft bracket, jack cams, latch stands, protection rod finger, lug strap washer, top holder arm transferrers, Hopedale protection rod (short), Hopedale protection rod (long) Draper warper balance wheel, calendar gear Kitson picker, spindle cylinder bearings, bronze worm gear, mote knife stands, speeder spindle gear, licker-in pulley, picker calender roll, calendar rack gear, filling can stand, filling can stand bracket, cam shaft bearing, take-up lever, R. H. take-up lever, L. H., pinion, steel rods for picker laps, cast iron pick ball cap, breast beam lever guides.

Now gentlemen, it seems to me this question which has been asked here is best answered by each man individually, because some of you may have equipment enough to make as many parts as the mill I have just mentioned, and some of you may not have equipment enough, and my answer to that question would be that you will have to determine that thing largely for yourself by an inspection of the stock that is now in your supply room, and judge by an examination of the piece if you have an equipment to finish that piece after you have it cast.

There is money to be saved in many of items by having the castings made and finishing those yourself, if you have the equipment, and it may be in some cases you would be justified in asking your mill to get the equipment. Have any of you gentlemen been giving that any thought?

Mr. McCroy: I would like to say I have been figuring a good while. We got down to the point where we are trying to manufacture a lot of our own supplies in our own shop. It has been a mystery to me for a good long while why we should manufacture cloth and send it up North and then get our supplies there. We have to have a certain amount of machinery in the shop and why don't we finish our own supplies?

Now, I have been figuring for several months on making different things. We ordered so many from the machinery people and then I make so many and I find out we make them about 50 per cent cheaper. Well, some superintendent would say "Well, you are not getting the right kind of material." We have foundries in South Carolina making as good castings as we can get anywhere, and if we can manufacture that in our own shop why don't we do it? We have to have mechanics in our mills and I am glad the cotton mills realize we can manufacture these things in our own shop, and just as well.

Making His Own.

Recently I made some split cam hubs. We ordered 19 from the North and they cost us $25. I turned around and ordered out 19 from a foundry here and made my own pattern and I finished mine for $11.85. Why don't we save that for the company? I believe the supply man and master mechanic should cooperate together, and before a supply bill leaves that supply room that that mechanic will look it over and see what he is ordering. Why should we order a spiral gear and pay $6.25 for it when we can make it for $3.25, saving $3.00?

Someone says, "Well, they can do a better job." That's because he is trained on that one job. You can do it in your own shop if you have the training, and a number of other things we can make. For the last few years I am learning how to be a mechanic. We go to some mills, some of us master mechanics get run off and have to go find another place, or we find a better job and leave. I go in the mill sometimes and I find they have been manufacturing supplies in the shop and they have everything in the mill out of standard size. To overcome come that— I don't see everything the shop men do and if there is anything gets me, stirs me up, is a little section hand up in the spinning room to bring something back in the shop and say "This is not made right," and I look it over and see it is not and I have to swallow that, but the way I am managing now in my shop, I have a pattern board. I don't know whether this will be of interest to any of you or not, but I feel in this meeting here we should all express ourselves and let the other fellow know what we are doing. I have a pattern board—I haven't completed my pattern board yet, but I am working at it every day, and I have a piece on that pattern board I keep in that shop an original piece that come from the manufacturer who made the machine. I bore a hole in it and put a tag on it and hang it up on that board. When we go to make anything in the machine shop the first thing the boy does, he goes and gets that piece and manufactures that and makes it to the pattern, then you keep a standard throughout the mill, and it don't ball you up when you have a piece go out of the shop, you know it is made all right. That's the way we are working our machine shop affairs now. We have had some jack gears where there is only 1 3-8 hub lengths they have cut them to 1 1-4, but we will finally get back on the right track after awhile if we keep it up.

The Chairman: That's good, Mr. McRoy. Does anybody know a better way to go about this thing? Right at this point I would like to put this thought before the meeting, and if you have not done anything along this line so far make some investigation and be guided by what you find out. I am sure if you will begin to check up on this proposition you will find you have got a very profitable field there that you are doing no work in at all.

Mr. Young: Mr. Chairman, I would like to say one word along this line. We have been following this man's line for about a year and a half. We make about 25 per cent of our renewal parts, all studs, such as jack gear studs, and jack gears, and intermediate gears we make they charge us 3½ cents a tooth for them made in the shop, a North Carolina company charge 2½ cents and I make them for 1½ cents and pay for the cast. I take issue with this gentleman when he says that the foundries here in the South can make castings as good as anybody else. I want to know where they are. Getting onto jack gears and all these spoke blanks, I haven't tried all the foundries in the South, but I have tried a lot. I have tried some of the best I could hear of. I won't call any names of any foundries, but I will say I had aluminum patterns for jack gears, intermediate gears and paid $45 to have the patterns made by the best pattern maker I could get and they were absolutely correct; took them to a North Carolina foundry and also shipped some to Georgia and got the blanks back. They cost us delivered about 9 cents. I tried 36 of each kind and I got 36 from each foundry; they cost on an average of 9 cents a pound. I ordered 36 from Pawtucket, Rhode Island and paid 12 cents a pond, f. o.b. Pawtucket, and the gears when they were finished up averaged a little better than 2 cents. The blanks cost 9 cents a pound, the cost from Pawtucket I paid 12½ cents and the freigh ton them down here and finished them up for 1½ cents. The difference came in in the machining and weight of the blanks. You take such things as spoke blanks, the manufacturers have perfected that absolutely; there's no waste on them. There is about 1-32 not gone over, and I don't believe that could be done in the South. I don't know of any place in the South that has the equipment to do it.

Just one year ago this month I had the pleasure of going through the biggest foundries in the East, Fales & Jenks, Drapers and saw their method of handling castings. Of course they make that a business. Their castings come a little bit higher, but we can take their blanks and pay 12½ cents a pound—I am speaking of spoke blanks for

(Continued on Page 14)

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Master Mechanics Have Interesting Meeting

(Continued from Page 12)

spinning frames—and make the gears for half a cent less per pound than I could make them from the best foundry in the South.

MR. MCWHIRTER: We use all our speed gear blanks from Atlanta. I admit we have some foundries around here that would melt set screws, if possible, but we have some in our neighboring towns that are making some good castings. They don't use a thing in the world but pig iron, but some of our foundries do use scrap and they dont care a bit more to dump a stove in it, and that's what I meant a few minutes ago, I do business with several foundries and somebody said "Why do you patronize so many?" and I said "I want to keep them guessing," so they will wonder who is going to get the next job, and they'll do better work. Our high gear speed blanks, we are changing to spiral gears, and we get all our gears from Atlanta, and I haven't been able to find any better.

Checking Costs.

THE CHAIRMAN: I want to put this before the meeting. I have had one or two experiences like Mr. Young. I believe I stated at the Greenville meeting whenever we strike something we haven't made in our shop before we buy a small quantity of casting and put those things through the shop and keep a very careful check on the cost in order to determine if it is going to be profitable for us to make. Some things it hasn't been, but the point is we found that out by checking it up. I am going to name one item that goes the other way; a warper balance wheel costs us from the company $2.50. I made two of the same balance wheels, finished them just as good looking in every way, and it cost us $3.00, so you see there are extremes on both sides.

MR. YOUNG: There is one other thing in making your own parts, especially where they have loom socket rolling frames. They are all sand tooth gears, you all know that, and unless you have a special cutter to fit a sand tooth gear—for our twist gear on the loom socket we had a special cutter made, but 98 per cent of the gears on loom sockets are sand tooth. If you buy them finished from the machine maker they will charge you so much per tooth for the sand tooth gear finished up, when there is nothing to do but bore it and probably face it off. We buy the castings unfinished for 9 cents per pound, which is 3½ cents less than shop will sell us and gear blanks to make jack gears. Consequently we can finish up all the gears for loom socket rolling frames for I'll say 33 -3 per cent of what they will cost us finished by the manufacturer, and there is nothing to do on them but bore them out and face them off and you are done.

MR. MCWHIRTER: I would like to ask that gentleman over there about the difference in the price of the cast. I would like to ask if he sent a set of patterns to each place.

Cost of Castings.

MR. YOUNG: No, sir; state you want the rough castings to be finished in your own shop; you get the number from their catalog and send for that number.

A MEMBER: The first casting you were talking about while ago costing so much more, why was it if you made your pattern and ordered the number why was it cost you more in the local places than it would up there?

MR. YOUNG: The difference in the time it took to machine it and the difference in the weight of the gear blank.

A MEMBER: That's what I meant, the difference in weight; where does that come in?

MR. YOUNG: They don't finish them up in the South. I never had it done. There is some difference in the weight, but the major difference in the cost comes in the machining.

A MEMBER: They weighed up heavier, every one of them. I weighed them, take one off the scale and put the other one and the one from the shop was always least, and they are smooth too.

A MEMBER: I have had castings returned from the foundry ¼-inch larger in diameter than the pattern, and while if they had been made accurate there would have been a shrinkage, but it's the way they made them.

MR. YOUNG: One rim will be thicker than the other.

MR. MCWHIRTER: Yes, that's where a fellow has to stay in behind them and if it is not according to pattern get on them.

MR. WAY: The way I look at it, I believe we have practically as good local foundries in the South as we have in the North, but the trouble comes in is this, you take the machine shop they make their own supplies for their machinery. They have to keep those supplies, those gears and things like that perfect to stay in the market, and I don't undertake to make any supplies that has any cast teeth in it because I never have been successful at it, because you take a pattern and make it and send it to a local foundry North you get practically the same results you get fror a Southern foundry, but if you send it to the manufacturing people that make the machine for that gear then you get the right stuff and right size, because they have every facility to make that casting, and a man especially for that job that understands it, and therefore you get what you send for. I haven't been able to get it no other way, and I make studs and cut gears and plain castings, but no teeth. When it comes to cast teeth I leave it alone.

MR. YOUNG: The machine people cast it by machines and do it all on the match board and they are all absolutely correct.

THE CHAIRMAN: I have had a lot of cast tooth work done in the South and got away with it.

MR. YOUNG: What do you do with the loom socket frame?

THE CHAIRMAN: I don't recall at the moment whether I have had any cast tooth work—well, I know I haven't done any recently for loom socket gears.

MR. MCWHIRTER: Do we notice that the machinery coming out nowadays has it got cut gears, or is it cast tooth?

MR. YOUNG: The loom socket is cast tooth.

A MEMBERS If you notice, every piece on a Draper loom nowadays is coming uot mostly with a cut gear. The machinery that comes nowadays is better equipment. I believe if I had a machine with sand teeth now I would do away with it. We are doing away with sand tooth gears; they don't run.

MR. KING: Which do you consider the most economical, steel blanks or cast iron gears, on high speed gears. For the difference in price, the steel blanks cost about 20 cents a pound and cost 6 cents in the local foundry.

THE CHAIRMAN: We have made some steel gears for our roving machinery and we have found it pays there.

MR. KING: I saw yours, and several others are making them and I wondered what they thought about the machinery in the way of high speed gears.

(Continued on Page 16)

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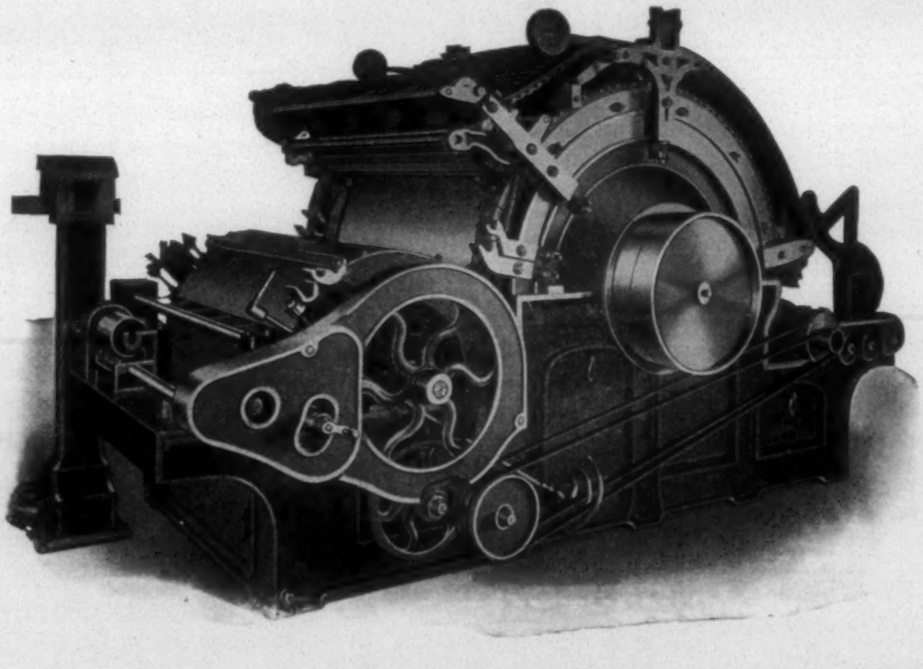

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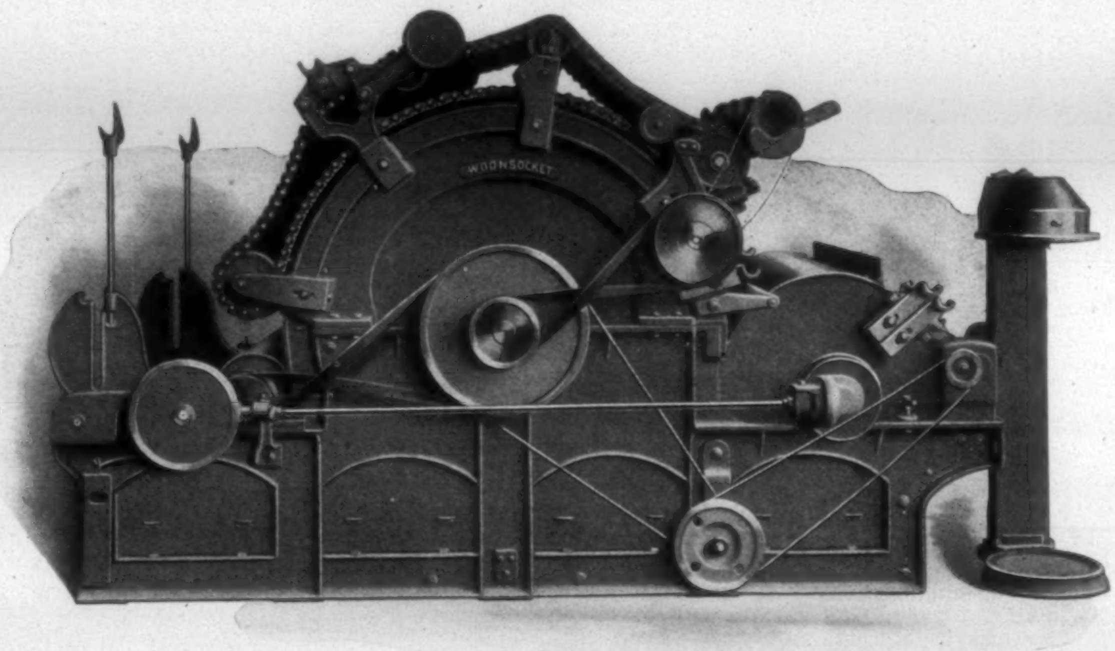

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MACHINERY

Master Mechanics Have Interesting Meeting

(Continued from Page 14)

The Chairman: Mr. Mitchell, I believe your plant has gone into that work, hasn't it?

High Speed Gears.

Mr. Mitchell: Yes, sir; I don't know; you see we have for about a year. We make our compounds using a sun wheel; we don't buy our compound. We make our bevel gears in the sun wheel of steel. We buy this stuff for 18 cents a pound. I said 18 cents a pound, now your bevel gear blanks you buy them by the piece. They charge you so much a piece, and rims that will shrink on those big spinners gears on the end we buy rings for them and get them by the pound, that is 18 cents a pound. We are changing everything we can to spiral tooth, our draw frame, calendar roll gears. We have not had that in service long enough to tell just exactly what it is going to do, but we have our compounds are not wearing, and I believe that that's the thing, is the steel gear in your compound, because you know, all these gentlemen know that a cast iron gear will break in a compound. Your teeth will shiver out and wear. We don't have that with steel gears. I don't know whether the difference in the price will pay for the life of it or not. It looks to me as if it would.

Mr. McWhirter: Are you making your bobbin and spindle drivers of steel or cast iron?

Mr. Mitchell: We had had Ferguson generate some bobbin gears for us.

Mr. Mc Whirter: Spur or spiral?

Mr. Mitchell: Spur gears. Those little bevel gears.

The Chairman: I was speaking of the 46.

Mr. Mitchell: Oh, we had steel gears on them, and changed them to spiral. They were spur tooth. I would like to hear somebody say something about spiral tooth gears.

The Chairman: I was thinking about that very point.

Mr. Mitchell: Do you think they are any better than spur tooth? We changed. I don't know what about that.

Steel Gears.

The Chairman: Getting back to the steel gears in the plant, Mr. Mitchell, was how my attention was first drawn to the advantage of using steel gears in these compounds. There are four gears there. They call one of them the pick-up gear and one of them the sleeve gear, and have two bevels that I expect would be properly termed planetary gears. We made one set of gears and put on the grame. We already knew about how long a set of cast iron gears lasted in that frame and this set of steel gears we put in has already outlived three sets of cast iron gears. I can't tell that they have been damaged at all, but then I guess they have been in there 18 months. When you examine the teeth in these steel gears you can't see any appreciable wear, so that looks like on the face of it that is going to be a big paying proposition.

Mr. Mitchell: Mr. Chairman, we have had compound complete, we built complete, a year and you can't tell they are damaged at all. They have been running a year. That is steel blanks, you all know about the bearing, you have to bore them and shove a cast iron bushing in. You have to do that with all of them.

A Member: I would like to ask Mr. Mitchell about what the compounds cost apiece to manufacture them.

Mr. Mitchell: Well, about $76, I believe completed; right close to $80.

The Chairman: Mr. Mitchell has asked about the spiral tooth. It seems he is using that quite extensively. Personally, I believe we are all going to come to it after awhile, for what I consider good reasons. I would like to hear some experiences on that.

A Member: I would like to ask if it takes more power to drive that frame if it is equipped with spiral tooth gears than it does with using spur teeth.

The Chairman: Have you checked up on that, Mr. Mitchell?

Mr. Mitchell: No, sir.

Mr. McWhirter: We checked on that one time. You have just a little bit more power consumed; just a little more power.

Mr. Mitchell: I would imagine you would.

The Chairman: You have more thrust there.

Spiral Gears.

Mr. McWhirter: I was with a manufacturing company several years and we equipped all the drawing frames with the tension rim gears, changing from an 8 pitch and made it 12, made it all spiral. We are changing today, equipping one of the mills at Monarch with the spiral gears throughout. I don't know how they are going to last. They were still putting them on and I haven't heard whether they gave any trouble, but we have a speeder there that has been running some ten years equipped with spiral gearing; it must be all right; just plain, ordinary, cast gearing, cut gears, spiral gears. We are equipping all the old mill there with the spiral gears.

The Chairman: May I ask what induced you to start experimenting with the spiral gears?

Mr. McWhirter: Simply because it is a cheaper gear in the long run. My argument was it is longer lived; you get a better production. You take this little speeder and that tooth, they will shell out like corn, I don't care where they may come from. The factory don't put them out so they won't shell out and I have seen as high as two speeders broken down at one time, on account of this shelling out. I have my first spiral gear to ever see broke. I have been making them about ten or twelve years, and therefore I argue it is the cheapest in the long run. There may be a little more power used, but the power is such a small bit until it isn't worth calculating, taking the time of building a speeder, and you get less back lash.

Back Lash.

The Chairman: Have you a gear generator?

Mr. McWhirter: No, sir.

Mr. Mitchell: Mr. Chairman, right there, this back-lash. Just why did you get less back lash in a spiral gear than you did with the spur?

Mr. McWhirter: Spur gears can only have about two teeth a lash and spiral have three.

Mr. Mitchell: In setting gears in lash properly wouldn't it have the same back-lash you would on a spiral gear?

Mr. McWhirter: No, sir.

Mr. Mitchell: Why so?

Mr. McWhirter: You have got more teeth to take up that loss.

Mr. Mitchell: I would like to hear somebody else say something about that. I can't get that back-lash business in my head.

The Chairman: Isn't it a fact the action of two spiral gears in lash, isn't it different from the two spur gears in lash?

Mr. McWhirter: Yes, sir.

The Chairman: Due to that fact, is it possible to lash the spiral gears so much closer than you would the spur gears?

Mr. McWhirter: Yes, sir.

The Chairman: Didn't that answer your question, Mr. Mitchell?

Mr. Mitchell: If you set them in lash too deep you are going to have—I don't think you could set a spiral gear any deeper in lash, much more than you could a spur gear. The only difference I can see in the two gears is the room. In breaking and making lash with your teeth you have got probably two teeth making and two teeth breaking, which gives you a steady pull. The spur gear will give you that. You have got a steady pull, but so far as the back-lash, if you set the gear properly you can work them just as much as you can the spiral gear.

A Member: It is figured with so much in proportion to the size of the tape; a spiral gear can be geared deeper than a spur gear, and therefore when you gear up the one making back-lash you take this long special cutter that the speeders come equipped with and if you gear that up too near it will shell out teeth so fast; then you have your back-lash, for a spiral gear can be geared to 1-32 of the bottom and run smooth and won't make as much fuss as a spur gear.

Broken Gear Teeth.

The Chairman: Speaking of back-lash, have any of you gentlemen had to contend very much with broken teeth in the cam shaft and crank shaft gears of your loom? I guess all of you have it more or less.

A Member: I have in the cut gear.

The Chairman: You don't have any broken teeth right on the pick?

A Member: Yes, sir, I have.

The Chairman: Mr. Burdette, do you have them anywhere else except on the pick?

Mr. Burdette: No, sir.

The Chairman: I have lately discovered that not only do we have broken teeth on the pick, I have a considerable amount of wear at that point, but strange to say every now and then we have an entire too knocked out, about fourteen teeth away from the pick on the cam shaft gear, and the only way I can account for that is the back-lash. It seems to me that that is the rebound point. What do you all think of that? Mr. Young ,have you had any experience along that line?

Mr. Young: I don't know much about it.

A Member: We have had a lot of that same trouble you are talking about, and we got some sand tooth gears that were long and keen and out they came. Finally I found one around there who said he would make them and make them right, and he wouldn't make them until he ordered the cutter to cut his pattern, and when it come you couldn't tell them from the manufacturer's gear. They are the same shape and do fine.

Mr. Mitchell: Mr. Chairman, what is the best gear for a loom drive, saw tooth or straight?

The Chairman: How about that, Mr. McWhirter, do you use a straight spur tooth cut gear?

Mr. McWhirter: Really the best gear you can put on a Draper loom and keep down vibration is the cut gear, but we got so recently we got to manufacturing our own patterns and having them cast and put on the straight spur gears. I have asked the weavers about them, but they are like the mechanics, they are not interested enough, just so it will run, and I really don't know, but I think this, if you want a Draper loom to run and quit shaking out bolts and so on, put the cut gears on and it will run smooth. The cast gear is not an accurate gear. It is out of balance. The only gear worth while on anything is a cut gear.

The Chairmans Have you ever run a spiral cut tooth on your gear?

Mr. McWhirter: Yes, sir. I am using some now. I don't know how they are going to last.

The Chairman: It doesn't look like anybody here has the same kind of looms I have. Looks like everybody has got rid of them but me. Do you use cast tooth spur gears?

A Member: No, sir; they wear out the cut gear. We take them off just as fast as we can take them off. I am putting sand tooth on in place of them—I mean the saw tooth gear.

The Chairman: What about that shaped tooth, the so-called saw tooth gear? Have any of you experimented with that to the point where you know whether they have advantages over the straight spur tooth?

A Member: It will last longer, but as you say there is a lot more vibration about it and more back-lash in it than in the cut gear.

The Chairman: Have you any trouble breaking the teeth out?

A Member: No, sir.

Mr. King: I would like to say I tried it thoroughly on the Whitin loom we had. We did have more back-lash on the saw tooth than on the spur tooth, but the spur tooth was worse to break than the saw tooth but we had the back-lash on the saw tooth more than the straight spur, but while we are on that why did Draper change to the cut gear?

A Member: It takes more power for a saw tooth too, Mr. Chairman. It has a dragging contact where the other has a rolling contact. They drag in and out, the cut gears, and the others roll in and out.

The Chairman: In connection with the subject of what parts should be bought and what parts should be made, there is another question comes in here that relates to machine shop work and that is concerning the class of work done by the mechanics in the shop. It is put this way: "Have Machinists do none but the Very Best and Neatest work. One sorry job will cause Another." I don't know what you all think about that.

A Member: I think somebody has already answered that question.

Need Good Machine Work.

The Chairman: I don't know just what this man had in mind unless it was that he had sort of found himself at a loss as to how to secure from the men he had the class of work he needed in his mill. It seems to me that is more or less a local problem.

A Member: Mr. Chairman, I think that is as much an essential thing as we mechanics have to contend with. That is in casting a job, we know the substantial part of a job comes in, where you might be able to do a substantial job and then it wouldn't look decent. I say do it substantially and neat. You might send a man out to put a piece of pipe somewhere in the mill and he wouldn't have time to stand and watch them put it up and it might be crooked or something like that. It isn't a mechanical job, and I find when you get jobs like that the best solution is to make the same man go back and have him straighten up the job, and make it look mechanical. We need it. You have a shop you are not ashamed of, and you also get the men in the habit. If you call him a few times the next time you send him out to do a job he won't quit until it looks like it is done in some kind of mechanical form, and take it as a whole it looks to me the very neatest and substantial job you can do and keep in mind all through your plant, why I think it is one of the most essential things that a mechanic can do, and also you might take it all through the mills, because when you get anybody to putting their mind on the job they are doing and put out the very best job they can put out, why you are accomplishing a whole lot. It will keep you from having to go back, and I find it is the same way with all kinds of badly done work; it will come back on you and cause you more trouble. I think it is an essential thing all the way, not only from the mechanical line but from the start of the cotton itself, from the time you start it through the mill. If you get everybody interested to do the nicest, neatest work, make the best laps and cards and get your hands and weavers on down to the last, to try to keep that in mind of all hands all through the mill, I think it will accomplish a great thing. It is the most essential thing in my mind.

The Chairman: The point you make there, in my opinion, is very essential. If we are going to manufacture machinery replacement parts and of course all of us who have any ambition whatever want our shops to do the very best and most accurate and neatest work it is possible.

I wonder how many have had a similar experience of mine. In a number cases in which an emergency arises and they require a hurry-up, so-called temporary job to be done, and it is done with the idea you will go back later and make a finished job out of it after awhile. The chances are you may not get back. I have had that happen lots of times, and I have had a whole flock of temporary jobs on hand at one time and couldn't finish any of them, and I wonder if that isn't bad policy. Even in emergencies wouldn't it better to take time enough to make a finished job out of it, because the continued repetition of temporary jobs it seems to me has a tendency to encourage slovenliness on the part of the men in our department of the mill.

Now, gentlemen, here is another subject that relates to machine shop work in a way, but before we go on that I want to ask if any of you have interested yourselves in the use of special steels in your repair work or production work.

Special Steels.

You know most of us for years have been using ordinary cold rolled steel because that's what was used before, and we never stopped to think if there was anything better than cold rolled steel for that purpose. Personally, I have lately become interested in special steel for various jobs and I haven't gone far enough with it to be able to give you any hard and cold facts as to economy and that sort of thing, but it looks to me there is a field that is well worth while, and I would like to know if anybody else has gone into the use of special steels for various jobs.

For instance, a stud that performs a certain difficult mission in a machine. You have been making that stud out of cold rolled steel and that stud hasn't lasted as long as you thought it ought to, maybe it broke. Have you tried to get a better steel to make that stud out of?

Mr. Young, I beli eveyou have interested yourself somewhat along that line, haven't you?

Mr. Young: Yes, to some extent. Our steel investigations have been more along the line of the proper steel for re-necking rolls, and so forth. I haven't gone very extensively into the steel gear. So far as the steel gear is concerned we haven't gone very far into that in the mill I am with.

Mr. Mitchell: We use a special steel for studs, all studs. That is Max-el No. 2, put out by the Bethlehem Steel Corporation.

The Chairman: Have you been using that long enough to be able to tell?

Mr. Mitchell: No, sir; I have been on it about three months.

The Chairman: I have been using some Max-el steel for other purposes than studs, but I haven't had it long enough. The cost of this special steel is not so very much higher than the other.

A Member: We are substituting this "turn and polish" for all our cold rolled. You will find—I don't know that it is any better metal, but you will find a better polish on it. If you want something the right size you will get it.

A Member: Can you temper that steel?

Mr. Mitchell: I don't suppose you could. You could harden it all right, but I don't know whether it would hold up or not. It is a medium steel.

The Chairman: I have had no occasion to temper or heat-treat any of the special steel we have started using, but I happen to know that you can get a steel for any purpose you want it for, and you can get it suitable for heat-treating or hardening or tempering. But in selecting the steel, put your problem up to the steel manufacturer and let him select the steel for you.

A Member: The reason I asked, a few of the gear studs on the spinning frames, that are pretty high speed and I am trying to get onto tempering those, harden those studs. I have a stud I make now in the shop; I get the orignal bearing and I cut that shaft ¾ or ½-inch long right over the oil hole. Every stud we make we take this stud right where the oil hole is—the manufacturers have a certain place for all their oil holes—and then we cut this stud about ¾-inch or ½-inch long right over the oil hole, so if the oil even hits the oil hole it will go down inside and create an oil well for the stud, and the reason I asked the question about this, if we could case-harden our studs and cut this oil well in there, and if they skip one day of oiling probably there would be enough in the bearing to run the stud until the next days.

Mr. Mitchell: I would like to ask Mr. McWhirter if the grooves in the stud would be better than an oil well.

Mr. McWhirter: I couldn't say. I notice all the machinery coming out has an oil well in the bearing.

Mr. Mitchell: I never did cut any studs that way. I would like to get his idea.

Mr. McWhirter: I think it would be better to give some place for the oil in the bearing.

The Chairman: Oil holes you are speaking of are the kind that are not stopped up? (Laughter).

Mr. Young: Where do you find them that are not stopped up? I never did find them.

The Chairman: Our oilers are pretty good about it, I believe, after looking over the machinery quite a bit lately.

Jack Gear Studs.

Mr. Young: Speaking of jack gear studs, we made a little experiment two and a half years ago. We took three studs we bought from New England, and three made from automobile axles I got out of a junk yard, and I made three out of cold rolled and potash to cold roll them, and we have a book record of the nine, and at the same

(Continued on Page 20)

Inviting Trouble

When grades of yarn vary in loom work, the same reeds should not be carried over from one job to another.

It is inviting trouble not to keep step by changing the reeds as well.

For example, when reeds procured for a voile with but one end per dent are used on fine satins with 4 threads to a dent, the over-crowding prevents the normal functioning of the reed. At the same time the fibres of the thread are endangered.

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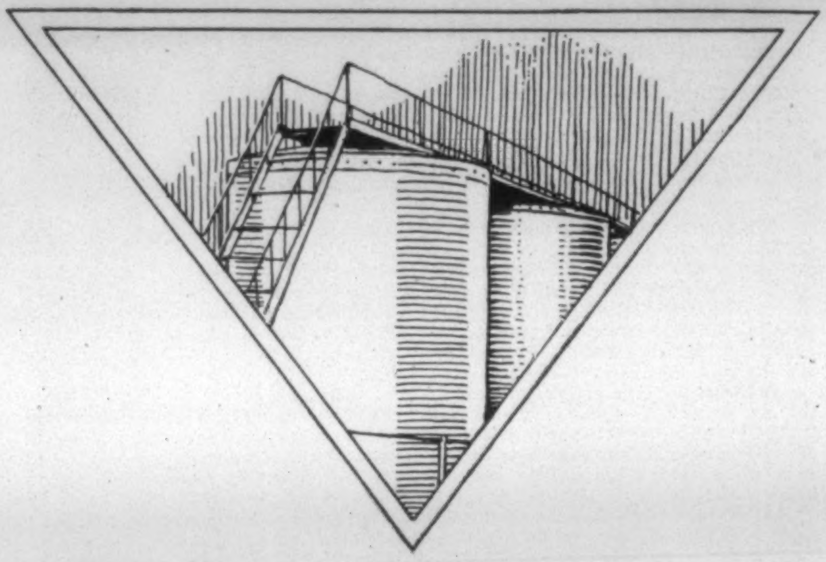

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Ginning Reports Shows 10,899,182 Bales

Cotton of this year's crop ginned prior to November 14, the Census Bureau announces totalled 10,899,182 bales including 401,005 round bales counted as half bales and excluding linters.

Ginnings to November 14 last year totalled 12,956,444 bales including 427,323 round bales and in 1925 they totalled 12,260,352 bales including 218,288 round bales.

This year's crop as indicated by condition November 1, has been estimated by the Department of Agriculture at 12,842,000 equivalent to 500 round bales. Last year 72.1 per cents of the crop had been ginned to November 14 while in 1925 ginnings to that date represented 76.0 per cent of the crop.

Ginnings by States to November 14 this year were:

Alabama, 1,125,552.
Arizona, 48,591.
Arkansas, 756,250.
California, 46,670.
Florida, 16,792.
Louisiana, 505,661.
Mississippi, 1,207,178.
Missouri, 59,084.
New Mexico, 49,043.
North Carolina, 675,407.
Oklahoma, 755,464.
South Carolina, 656,240.
Tennessee, 258,710.
Texas, 2,665,252.
Virginia, 16,458.
All other States, 3,082.

Rayon Plant Secures Burlington Site

Greensboro, N. C.—Land for the $8,000,000 rayon-producing plant that is to be located two miles from Burlington was deeded recently. Work on the first unit of the new plant, 15 miles from here, is expected to be begun within the next few days, it was announced by Junius H. Harden.

Albert M. Johnson, president of the National Life Insurance Company of Chicago, will finance the rayon plant. After visiting many sections of the South, Mr. Johnson finally chose Burlington. On a recent visit here, he brought with him one of the leading chemists of the country connected with the rayon industry, whose name is withheld.

Development of the new rayon mill will be along the unit plan, to begin with an initial investment of more than $1,000,000. Ground is to be broken for this unit within the next 10 days. Further development of the plant is expected to involve a sum approximating $15,000,000.

The necessity for immediate work on the erection of the mill buildings is occasioned by the fact that 60 per cent of the machinery for the mill has been completed and is now awaiting shipment.

Indian village, lying approximately two miles north of Burlington, will be the site of the mill. For a time the location of the plant hinged on the securing of this tract of land in Indian Village. Deeds are being executed upon more than 100 additional acres adjoining, and checks covering the sums stated in the options are on deposit for delivery by W. S. Coulter, an attorney retained by Mr. Johnson to handle this phase of the negotiations.

The first building will be 300 by 1,400 feet, so constructed that additional units may be added at any time. The product of the plant will be a rayon of a better grade. The manufacture will be by a new secret process which is claimed to be unknown to the rayon producing world today, except in Government circles, where it is being handled for patent rights.

Mr. Haden stated that Mr. Johnson, when speaking to Governor McLean of North Carolina, inquired as to the cause of higher taxes in North Carolina than in neighboring States. The governor, who, it is said, has been anxious to bring rayon plants to his State, outlined the advantages of the State economically with due reference to the better conditions provided for the higher tax rate. He reminded Mr. Johnson that the schools, roads and other factors are decidedly better than those in States with a lower tax rate.

It was predicted by the governor that North Carolina is now so far ahead that a gradual decline in taxes may be expected. According to Mr. Harden, this visit to the Capitol influenced Mr. Johnson in the choosing of the plant site.

Narrow Sheetings Group Meets

Spartanburg, S. C.—Members of the Narrow Sheetings Group of the Cotton-Textile Institute, Inc., held a meeting in the Cleveland Hotel here at which current conditions in this branch of the cotton textile industry were discussed.

Walker D. Hines, president of the Institute, was present at the meeting and made a talk in which he reiterated, as he had done at the Institute's annual meeting in New York city on October 19th, the necessity for thorough study of the available statistical information and the importance of an intelligent adaptation of supply to demand on the part of individual mills.

A large representation of mills engaged in the manufacture of narrow sheetings was in attendance. Wiliam J. Veneer, of Moultrie, Ga., chairman of the Group Advisory Committee, presided.

A resolution expressing sympathy at the death of Harry B. Jennings, late president of the Union-Buffalo Mills Company, Inc., and the Fairmont Manufacturing Company was introduced by S. M. Beattie, of Greenville, S. C., and unanimously adopted. Mr. Hines spoke briefly in appreciation of the great assistance which Mr. Jennings had rendered as Cost Captain of the Group in iniating the cost accounting work of the Institute.

Georgia Mills Curtail.

Atlanta, Ga. — During the past three weeks no less than 10 mills in the State ahve curtailed operations of their day running, and it is known that six mills have stopped all night operations. Indications point to further curtailment unless orders are received immediately.

Lad "feels" differently

"Here, Lad—

you're asking me to change over to your new-fangled motor just because it's steel or because it has husky bearings or something. It may have all the better features you talk about but we must still buy from the big manufacturer. We have a diplomatic situation involved that ought to be handled with gloves."

"Yes, Pop—

boxing gloves.

As long as you **feel** that your actions should be governed by what you feel other people will feel about it, you'll always be a part of the mob.

If the "Linc-Weld" motor people had felt that way they'd still be making a cast frame motor that breaks in an emergency. They'd still be making a motor with peanut bearings that burn out with consistent regularity. They'd still be making a motor that would heat up or burn up when the stress of abnormal conditions hit it—and industry would be without a husky brute motor that keeps down production costs by obviating unnecessary maintenance and keeping SPEED in production (the modern trend).

It needed a tradition breaker to produce a shirt that buttoned up the front instead of the back—and it wasn't the big factories that developed it."

A new textbook on Arc Welding (Price $1.50) will be sent on approval for five days to any executive requesting it.

Book size, 6"x9"—Total pages, 160—Number illustrations, 200—Charts, 62—Divisions, 8.

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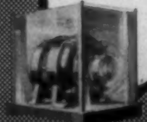

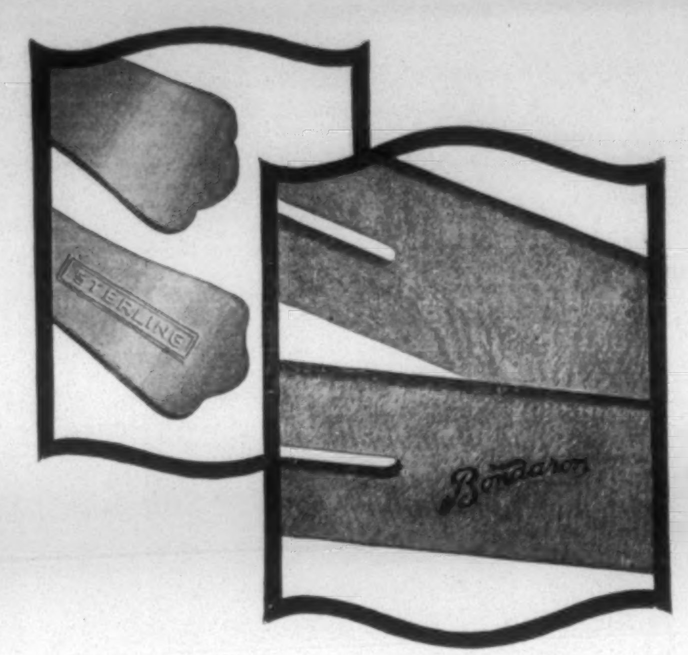

They May Look Alike—
But the Difference is Vast

Leaving the hair on an ordinary check strap doesn't any more make it a *Bondaron Check Strap* than the addition of a suit of clothes makes a man out of a monkey. Without the mark "Sterling" to guide them, the purchaser of silverware would be unable to distinguish the unreal from the genuine.

Plated silver looks so much like sterling silver that from the standpoint of the *appearance* there seems little to choose between them. Ordinary check straps with the hair on so closely resemble the product bearing the name "Bondaron" that to the eye one check strap may *seem* to be as good as another.

But appearances are deceiving—"all is not gold that glitters"—and the army of "just as good" merchants leaves nothing but dissatisfaction in its train. When a jewelry clerk shows you silverware you look for the name "Sterling" before you buy. When a mill supply man offers you check straps insist on seeing the name Bondaron. Unless the name is there you won't get the genuine—and if you don't get the genuine you *can't* get Bondaron service.

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Master Mechanics Have Interesting Meeting

(Continued from Page 17)

time we put on new gears, three from New England and three from North Carolina and three I made, but up to the present time it hasn't shown that either one of them is not all right. That was two and a half years ago.

Re-necking Steel Rolls.

THE CHAIRMAN: Speaking of special steels, that gets us up to another proposition and that is put in one of our replies this way: "The Best Method of re-necking steel rolls; the kind of Steel to use, and Does it pay to Re-neck your old Rolls?"

Mr. King, I believe you told me your plant was not re-necking its own rolls ,except as repairs?

MR. KING: We only do repair work. Overhauling we do not do. We have that done on the outside.

THE CHAIRMAN: My plant does that too. That was all settled before I went there.

MR. YOUNG: You have had a lot of experience in re-necking rolls, Mr. King; I would like to have your experience on that, the cost as compared with what you can have them re-necked outside for, and the quality of the work you get from the outside.

MR. KING: I think the quality of the work is the most important feature in it. I don't think it is hardly practical for the smaller mill to re-neck the rolls, as an overhaul proposition, that is take them and re-neck them. I don't think it is either practical or economical to do that in the average small plant. You don't get a good roll. You don't get as good work as you will get done on the outside; that is if you have it done right, and you can't do it as cheap as they will do it.

MR. YOUNG: What I would like to know is how you get it done right. (Laughter) We have tried three or four different outfits and haven't been able to get it done right. I have had to take the same rolls they re-necked and work them over in the shop, but they will re-neck them for about 80 cents per neck, or 90 cents and re-flute them and I can't re-neck them for that in the shop.

MR. KING: I will state the way we get them done right. The man who does the work comes to the plant and gets the rolls that are to be re-necked; carries them away and re-necks them; brings them back and puts them in. Then one thing we have done we think is worth while. We have the stands finished; every stand re-finished down to a standard height. In other words, we level the frame; we put the frame level and he re-finishes the stand and puts the roll in and starts the frame up. The drawing roll I think is the most important roll we have to repair, is a metallic drawing roll and we get that done we think satisfactory. The way we do that, when he returns his draw roll, we have a man take it and we only allow him one-half each way, one-half of 1/1000 under and one-half of 1/1000 over, and if that doesn't come up to that he must take it back and work it over, and our drawing rolls have been very satisfactory, and we get them done at a price we think cheaper than we can do it.

MR. YOUNG: We went into this re-necking proposition pretty extensively, and at the head of the Kendall organzation we have a Mr. Clark who is a pretty keen, shrewd engineer, when it comes to analysis of steel, and so forth, he makes me and a lot of the rest of us look like a dime, but he got into this re-necking proposition and finally specified or determined the best steel to use, and you know when we got the price on that steel the steel was about 53 cents a neck, just for the steel alone. Now that was steel that the White Machine Company recommended. They offered to sell us the necks cut for 53 cents a piece. You can't pay any such price as that for necks and then re-neck them for 90 cents.

MR. KING: I think there is a very satisfactory steel for re-necking rolls known as the "open hearth" steel. I mean by that it is a steel that won't jump off or break off; if you have to straighten one you needn't be afraid of it breaking off; then put in just as much carbon as you want to make it as hard as you want. For instance, if I was going to buy steel for re-necking, I would specify 40 carbon and open hearth steel, and I would feel satisfied it would be all right for wear and strength and everything else. So far as a whole lot of this so-called cold rolled steel being sent out by the supply houses is nothing more nor less than bolt steel. I see it all around at different places. It is nothing in the world but bolt steel.

J. J. MEHAFFEY, Consolidated Textile Corporation, Lynchburg, Va.: Mr. Chairman, I have been re-necking with cold rolled steel, but I first bore out my rolls and make the necks and case-harden them, and I have been doing that—I case-harden with an acetylene torch in the bar and if you do that you will have perfect satisfaction, and you dont have to use all these special steels. I have been using that nine or ten years.

THE CHAIRMAN: You case-harden them in the bar?

MR. MEHAFFEY: Where it runs in the bar, before I drive them together. That keeps it hard in case of breaking off. After you harden it you can't bore it out. I harden it at that point.

THE CHAIRMAN: Mr. Mehaffey, do I understand you do all your roll work yourself?

MR. MEHAFFEY: Yes, sir; we tried to have it done but we can do it a great deal cheaper.

THE CHAIRMAN: Would it be fair to ask you what you found it cost you to re-neck rolls?

MR. MEHAFFEY: I have a man that re-necks a roll a day; I pay him $5.00 a day.

MR. YOUNG: Does he do all the work?

MR. MEHAFFEY: Yes, sir.

MR. YOUNG: A roll a day?

MR. MEHAFFEY: Yes, sir.

MR. YOUNG: Have you any special tools in your shop for that job?

MR. MEHAFFEY: We use double cutters.

MR. YOUNG: You don't use a turret lathe?

MR. MEHAFFEY: No, sir. After you harden those rolls they won't cut.

MR. MCWHIRTER: Mr. Chairman, I would like to ask the question, why is it that the ordinary cotton mill shop cannot take a steel roll and re-neck it as good as the pepole in Charlotte or Greenville?

A MEMBER: They can.

A MEMBER: I agree with you they can. I will admit this, I had some experience with my friend Tom King here. I had to go over there and re-neck all the rolls in the Phoenix Mill. We were in "hollering" distance across from each other. I slipped in there one time to see Tom King's roller operate. He made it over there I think as well as I remember. I'll admit you cannot take a mechanic and let him put a stud in this and go over there and bore an oil hole and then go back over there and bore an oil hole and then go back to his lathe and re-neck a steel roller, but you can take a man and put him on the job and re-neck that roll anywhere from 25 to 30 per cent cheaper than you can have it done. They use Empire steel or something that is easy when you send it out, whether he does a fair job with Empire steel or not. We all know that is soft and flexible. They put out a steel they call the journal steel, and that is the trouble with we mechanics now, we are not taking on these jobs, proving to the superintendent and to the manager that we can do it, and that fellow at Greenville that does the job just has two eyes and two arms like all of us. Take some man in your shop and train him up.

I remember one time at Greenville a fellow hired two men I had to re-neck steel rolls. We were re-necking those steel rolls and saving that for the company. We do it at Monarch. We have a man down there can back up what the man said; he re-necks a twelve joint steel rol frlom end to end in one day's time. He gets 40 cents an hour; he is satisfied with his pay.

THE CHAIRMAN: Mr. Mitchell, didn't your plant go into re-necking at one time?

MR. MITCHELL: That was before I went there.

Magnetic Switches.

THE CHAIRMAN: I want to ask if those magnetic switches are original installations or do they replace switches of other types?

A MEMBER: They are original in ours.

MR. QUEEN: Ours are replacements.

THE CHAIRMAN: Mr. Queen, I want to ask you what was your idea for replacing another type with the magnetic switch?

MR. QUEEN: I get better service out of magnetic switches; less upkeep; less expense. Less expense on the first cost and less expense on the operating cost.

THE CHAIRMAN: Do you find any tendency to burn on the contacts?

MR. QUEEN: No, sir.

THE CHAIRMAN: And you do find an advantage in being relieved from oil?

MR. QUEEN: Yes, sir, and also in contact points; on the Westinghouse we replaced points on them once a year, especially on the picker motor; we had trouble with burning of points on account of the inexperienced operators starting and stopping the motor. By using an automatic switch it goes in and out quickly.

THE CHAIRMAN: What is the size of your spinning motor?

MR. QUEEN: 25 horsepower.

THE CHAIRMAN: Four frame motor?

MR. QUEEN: Yes, sir.

THE CHAIRMAN: And you have magnetic switches on these?

MR. QUEEN: On four of them. Those up there are more for experiment; that was with new motors as additional equipment, put in the mill, but in the picker room we found we got good service out of one in the spinning room so we replaced the old switches in the picker room with new magnetics.

THE CHAIRMAN: Does anybody else have anything to say regarding the advisability of replacing other equipment with magnetic switches?

Burn Outs on Loom Motor Equipment.

Then I want to ask you this. I have a piece of information here from the master mechanic of a large cotton mill which states that the burn-outs on the loom motor equipment amounts to 12 per cent annually. The only description he gives of his equipment is he simply says "Loom motor on 220 volts." 12 per cent of his motors burn out annually. Can somebody offer a suggestion as to why that could be?

MR. MITCHELL: Mr. Chairman, I could tell him how. If he would cooperate with the section men and overseers, section hands and whenever a motor blows a fuse and starts to single phase, that's what burns them up, nine out of ten, single phase, and as quick as one gets hot pull the switch out. I find that is the biggest help I could get.

Preventing Blown Fuses.

THE CHAIRMAN: I had this experience with some. I had no motors burning out because I wouldn't listen to the idea of over-fusing the motors. The overseer wanted to over-fuse to avoid stoppage, but we found out the brake on the loom was coming in before the clutch turned loose, consequently amounting to overload enough to blow the fuse, but it took us a long time to convince the overseer of weaving that was what was blowing his fuse, and he got in behind the section men and he had those adjusted so that the brake did not come in on the loom until after the clutch turned loose, and

Warns Against Fake Steel Companies.

DAVID CLARK: There has been so much said here about special steel that I think it ought to be put into this record, in buying special steel it should not be bought except from some well known and well recognized house. I guess you know that that fake steel game has been played on the Southern mills too many times, and if we let it go out of here somebody will come along and load steel on us. One mill in North Carolina has steel they bought in 1902 and won't use it up for fifty years, and I know five or six mills that paid over $500 for steel last year. Somebody came along with that fake steel game, and I think we ought to put it in so it won't encourage these fakers to come along. In buying special steel it ought to be bought from a well known and well recognized house.

(The meeting then adjourned for luncheon.)

AFTERNOON SESSION.

THE CHAIRMAN: Gentlemen, I have a question here sent in by one of the mills asking if "Magnetic Switches are best for Individual Drive in Picker Room." Has anybody any magnetic switches on their picker room motors?

A MEMBER: I have on the spinning drive.

that eliminated practically all the fuse blowing in that plant, but when I got this inquiry it struck me maybe this man was having that same trouble, and maybe he had over-fused his motor.

MR. MITCHELL: One particular mill had a 6 ampere fuse and I increased that to 12 and after that I lost two motors in four years. I don't think anybody hardly could beat that, and I didn't have any trouble, but you do have excessive stoppage with a 6 ampere fuse.

THE CHAIRMAN: Can anybody else suggest any other reason why this man's burn-out should be as high as they are?

A MEMBER: Mr. Chairman, I had a little experience along that line. I didn't lose so many; I lost about three motors a year out of 602 motors and the experience I had, the cap screws were getting loose on the end of the belt, so I got the engineer and we talked it over and put on lock washers, which eliminated that. Then we found later on the next year perhaps we lost one or two. The bearings were bronze bearings like most of them are, I guess, and the opening was next to the gear—I mean opposite the gear—it should have ben next to the gear, which if they are not looked after of course would out even if oiled, will wear out so much quicker because you haven't hardly any bearing surface on that side, and sometimes on those thermal cut-outs pinch the little cut-outs so that it won't melt of course, it don't fuse, you know that; it is supposed to melt like soldering iron would do, and they can't of course if they are cramped. That's the experience I had.

THE CHAIRMAN: Did you have any trouble with the motor pinions coming loose on the shaft?

(Continued on Page 27)

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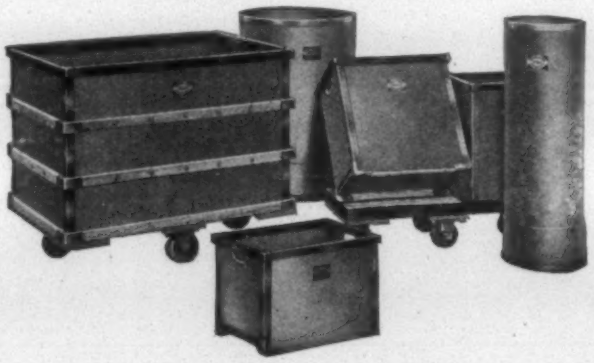

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The Ginning Report

THE following is a comparison of the Government estimate of November 9th, with the amount ginned to November 14th:

	Estimates	Ginned to Nov. 14	To be ginned
	(000 omitted)		
North Carolina	845	675	170
South Carolina	730	656	74
Georgia	1,110	1,053	57
Missouri	110	59	51
Tennessee	350	258	92
Alabama	1,180	1,125	55
Mississippi	1,330	1,207	123
Louisiana	525	505	20
Texas	4,300	3,665	635
Oklahoma	1,050	755	295
Arkansas	1,000	756	244
Other States	312	185	127
Total	12,842	10,899	1,943

It is especially interesting to compare the amount yet to be ginned in four of the States in which cotton picking began earliest.

	Ginned Oct. 16 to Nov. 14	To be ginned
	(000 omitted)	
Arkansas	276	244
Mississippi	206	123
Oklahoma	373	295
Texas	779	635

The figures show that in these four States with the exception of Mississippi which by reason of the flood had a later start, the amount yet to be ginned is almost as much as was ginned during the previous thirty days.

There is no doubt that after a year of low prices, twenty cent cotton looked attractive to farmers and that with almost perfect weather there has been more than the usual rush to gin and sell.

Under the circumstances the amount yet to be ginned in Arkansas, sas, Oklahoma and Texas looks unreasonably large, but it should be taken into consideration that these are the States in which cotton bales are large and that ginning figures are in running bales, whereas the Government crop estimate is in 500 pound bales.

The amount ginned from November 1st to November 14th was 973,387 bales, against 1,806,817 bales from October 16th to November 1st.

The Government has made practically the same estimate for three months and while the crop may prove to be slightly larger or slighly greater than the estimate, it is reasonably certain that it will not exceed 13,000,000 bales.

While we are arguing about a few hundred thousand bales difference in our crop and the market declined 1½ cents on an estimated increase of 164,000 bales, excessive rains in India have caused the crop to be estimated at 1,400,000 bales less than last year and a Japanese report says:

> "Lately heavy rains reported from all over cotton districts of India, causing damage to both quality and quantity of crop. Bombay market excited. It advanced one cent yesterday, and therefore demand of Japanese mills for American cotton is increasing."

Now or Never

DURING the past few years there has been little pleasure and less profit in operating a carded yarn mill. The carded yarn industry has been faced with a combination of circumstances that made profitable operations almost impossible. While there have been spasmodic periods of profit making, these have been regularly followed by depressions that more than offset them. Overproduction and curtailment have occurred with monotonous regularity.

It has become trite, during these years, to say the spinners were largely to blame for the conditions under which they operated. Many of them have admitted it. Such honest confession might have been good for their souls, but has been of little good to their business.

Some months ago leading spinners, realized that the carded yarn industry, if it were to live, must be put upon a different basis. Working through the Carded Yarn Group of the Textile Institute, they set out to eliminate many of the most outstanding trade abuses that afflicted their industry.

One of their first acts was to evolve the Code of Trade Practices, which was worked out in co-operation with the Yarn Merchants Association. This, we believe, is undoubtedly the most constructive step the spinners have ever taken.

The Code has already clearly demonstrated its worth. Without it, there is no doubt that speculative buying, in recent months, would have reached large proportions, and would have been followed by the usual disastrous results to spinners and consumers alike. While yarn trading has been very slow recently, the situation, we believe, is fundamentally stronger than it has ever been under like circumstances. When a stronger demand does develop, and it is sure to come, spinners will not be forced to offer their yarns in competition with large speculative stocks, as has always been the case in the past.

It is true that present conditions lead more easily to a tendency to disregard the letter and spirit of the Code than has been the case since it become operative. It would, however, be nothing less than rank folly now to countenance any irregularity in carrying out its provisions. The Code will stand the test if it is strictly adherred to. The soundness of the principles which underlie its provisions will stand up in a dull market as well as in an active one. In the final analysis, the spinners can control the situation. They should by all means insist upon a rigid practice of the Code's provision. This is no time to be weak-kneed. It is now or never.

A second and hardly less valuable accomplishment of the Carded Yarn Group of the Institute is the establishment of its statistical service. Through it, spinners regularly obtain comprehensive and common-sense statistics on carded yarn production, sales, shipments, and similar data. These can be of inestimable value. With the statistics, the spinners are furnished a clear view of the market picture as a whole. Individual relationship to the whole productive scheme is established, a charted course is available in place of a blind alley. The value of these statistics is going to become increasingly apparent as time goes on.

The two chief causes of depressed yarn markets are usually given as over-production and poor marketing methods. Over-production is merely another way of expressing poor marketing. It amounts to nothing more than attempting to force more yarns on the market than it can absorb, and building an accumulation of stocks against the time when their weight will break prices. Over-production has in many cases been due to the spinners' lack of reliable information on production and consumption. With statistics covering these points, they can govern their actions according.

We urge all spinners to: (1) Insist upon strict adherence to the Code, (2) Study carefully and make intelligent use of all statistics furnished by the Institute, (3) Make their own reports to the Institute regularly and faithfully.

Against Wage Reductions

CONSIDERABLE publicity has been given to the fact that six cotton mills in Maine have made a reduction of 10 per cent in wages and we are afraid that some Southern mills will be inclined to follow their example.

We are absolutely opposed to any movement looking towards any reduction in cotton mill wages, as there has been no reduction in the cost of living and a reduction in wages would work an unjustified hardship upon the employees.

A movement for reduction in wages at this time would be seized upon by the buyers of cotton goods as a sign of weakness and any saving in the payroll would be met with a demand for lower prices for goods. It would only be taking money out of the payroll of employees and giving it to the buyers of cotton goods.

If business is not good it is the result of constantly equalizing the demand by starting up more spindles and looms at night.

If the cotton manufacturing industry unjustly tries to make the mill operatives suffer the penalty of excessive night operations for which they are in no way to blame, it will in the end suffer more by reason of such injustice.

We have not heard of any efforts towards wage reductions in the South but knowing that there are a few manufacturers who would not hestitate to start such a movement if they thought they could get by with it, and that when such a movement starts it sometimes becomes general, we hasten to state our position and to give notice that we will join the operatives in any fight against reductions.

A Worthwhile Meeting

THE record of the meeting of the Master Mechanics Division of the Southern Textile Association, published in this issue, testifies to the very valuable session which this group enjoyed at their meeting in Spartanburg.

The discussion also offers ample evidence that the master mechanics have the same urge toward greater efficiency that is being constantly shown by the membership in the other Divisions of the Association.

We take this opportunity of congratulating Chairman Iler, ahd all others who so ably assisted at the meeting. It was a marked success.

Personal News

S. B. Laws has been promoted to superintendent of the Gray Manufacturing Company, Gastonia, N. C.

J. D. Harrison has been promoted to overseer of carding at the Arkwray Mills, Gastonia, N. C.

J. B. Wilson has resigned as master mechanic at night at the Harmony Grove Mills, Commerce, Ga.

J. F. Aderholt is now master mechanic at night at the Harmony Grove Mills, Commerce, Ga.

C. M Stewart has become overseer of carding at the Rodman-Heath Cotton Mills, Waxhaw, N. C.

James W. Shiver has become assistant overseer night spinning, Dover Mill Company, Shelby, N. C.

Claude Johnson is now night assistant overseer weaving, Dover Mill Company, Shelby, N. C.

J. H. Davis has resigned his position as night superintendent at Lydia Mills, Clinton, S. C., and returned to his home in Gaffney, S. C.

Will Greenwood, formerly of LaGrange, Ga., has accepted a position as superintendent with the Acworth Mills, Acworth, Ga.

C. H. Amick has resigned his position with the Issaqueena Mills, Central, S. C., and accepted the position of night superintendent of the Chesnee Mills, Chesnee, S. C.

John R. Abernathy has resigned as second hand in spinning, Manville-Jenckes Company, High Shoals, N. C., to become assistant day spinner, Dover Mill Company, Shelby.

M. H. Pitts has resigned as night assistant overseer spinning, Dover Mill Company, Shelby, N. C., and now has a position at one of the mills at Greenville, S. C.

James Oates, formerly general overseer of carding at Thomas Henry and Sons, Nashville, Ten., has become overseer of spinning, spooling and warping at the Adams Duck Mills, Macon, Ga.

J. D. Whitmire has resigned as overseer of carding at the Mills Mill, Greenville, S. C., and accepted a similar position at the Brandon Mills, of the same place.

W. R. Eastridge has resigned as night superintendent of the Cabarrus Mills, Kannapolis, N. C., to become overseer of the twisting department of the Loray plant of the Manville-Jencks Company, Gastonia, N. C.

E. S. Tramwell, formerly superindent of the Cotton Mill Products Cmopany, Natchez, Miss., has become superintendent of the Virginia Manufacturing Company, Greenville, S. C. The mill is being operated by George H. Anderson, president and treasurer, who was formerly general manager of the Apalache Mills.

D. J. Autry has been promoted to overseer of carding and spinning at the Ranlo Manufacturing Company, Ranlo, N. C.

G. S. Watkins has resigned as assistant overseer spinning at the Dover Mill Company, Shelby, N. C., and now has a position at Spindale, N. C.

F. E. Cantrell has resigned as night overseer weaving at the Dover Mill Company, Shelby, N. C., to become day overseer of weaving at the Mercury plant of th Martel Mills, North Charlotte.

W. A. Guinn has resigned as overseer of carding at the Rodman-Heath Cotton Mills, Waxhaw, N. C., and accepted a similar position at the Springfield plant of the Morgan Mills, Laurel Hill, N. C.

J. R. Federline, who as reported last week has resigned as overseer of spinning at the Darlington Manufacturing Company, Darlington, S. C., to become general overseer of spinning, spooling and warping at the Lanett Division of the West Point Manufacturing Company, Lanett, Ala., on December 5th, is paid high tribute by one of the officials at Darlington. For several years Mr. Federline has been acting as assistant superintendent of the Darlington plant, and has been active in all phases of community life there. He has served as a member of the Board of Operatives of the Darlington Manufacturing Company, and also served as president of the Board. He was a director in the Y. M. C. A., and active in religious, fraternal and educational work. In sending Mr. Federline's record at Darlington, this official expresses much regret that he is to leave his work there.

John W. Fries

Winston-Salem, N. C. — John W. Fries, age 81, pioneer manufacturer and business leader of this city died here on Tuesday. He was long prominently identified with the textile industry. As a young man, he entered the cotton mill office of F. and H Fries, under his father and his uncle and became one of the most successful mill executives in the State. He had a highly technical knowledge of cotton manufacturing and invented several machines that are generaly used.

Mr. Fries served as director of the Fries Manufacturing and Power Company, of the North Carolina Midland Railroad Company, of the Wachovia Loan and Trust Company, and was formerly president of the Arista Mills. Since 1912 Mr. Fries had given his time to the affairs of the People National bank, of which he served as president until July, 1927, and continued as chairman of the board of directors until his death.

He is survived by two daughters and two brothers, one of them, Francis H. Fries, being president of the Washington Mills, Fries, Va.

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MILL NEWS ITEMS OF INTEREST

Woodruff, S. C.—Mills Mill No. 2, have let contract for sewerage and water system, to Fiske-Carter Construction Company of Greenville, S. C. Lockwood, Greene & Co., are engineers.

Spartanburg, S. C. — Whitney Manufacturing Company has let contract for transmission material to Textil Mill Supply Company of Charlotte, N. C. Lockwood, Greene & Co., ar the engineers.

Athens, Tenn. — Local capitalists are negotating for the removal of a knitting mill from New England to this place. R. C. Leonard, of the Industrial Dept. of the Tennessee Power Company, is also interested.

Shelbyville, Tenn.—American Hosiery Mills has been decided upon as the name of the full-fashioned hosiery mill established here by Bryant Woosley and his associates. The company is capitalized at $50,000. H. L. Woosley is president and W. B. Woosley secretary.

Forest City, N. C. — Work has started on the addition to the Ellenboro Manufacturing Company, at Ellenboro. When completed the mill will be about twice as large as it is now, about one hundred more looms being added.

About 25 new dwelling houses will also be erected to take care of the employees of the mill.

Chattanooga, Tenn.—Carter Lupton, president of the Dixie Spinning Mills, has announced that the new addition will be completed, equipped and in operation by the middle of this month. It will be one of the largest electrically operated mills in the country. The company is also completing a $100,000 addition to the mercerizing plant in Chattanooga.

Gaffney, S. C.—According to J. E. Hatcher, president of the Chamber of Commerce, a Massachusetts cotton waste manufacturing company is negotiating for a site to establish a plant in this city. The location of the plant here, is was stated, would involve the investment of local capital. Several Gaffney men have expressed a willingness to consider the matter seriously, if the proposition proves favorable.

Union, S. C. — Monarch Mills of Union and Lockhart is to retire $1,000,000 in preferred stock with the end of the year and raise the semi-dividend on common stock from 3½ to 4 per cent.

Such retirement, determined by directors, gives the mill $3,000,000 in common stock outstanding.

Preferred stock is being retired at par, $100 per share.

Print cloth and narrow sheeting are manufactured at the mills, which have 160,416 spindles and 4,066 looms.

Spartanburg, S. C. — Dividends have been declared by Spartan and Drayton Mills.

At a meeting of the directors of Spartan the accustomed 4 per cent semi-annual division on $2,000,000 common stock which totals $80,000 was authorized.

W. S. Montgomery is president and treasurer of the mill; W. S. Montgomery, Jr., asistant treasurer; and E. M Mathews, secretary.

Drayon voted the usual 3½ per cent semi-annual dividend on preferred stock, the capital being $350,000 for a division of $12,250.

Spartanburg, S. C. — Directors of the Pacolet Manufacturing Company declared a dividend of 3½ per cent on preferred stock and 5 per cent on the common. The capital stock is $4,000,000 divided equally between the two issues.

V. M. Montgomery is president and treasurer, W. B. Lawson, secretary, and B. W. Montgomery, assistant treasurer. Officers of the company had been elected at a previous meeting.

Board of directors of the Whitney Manufacturing Company met. W. E. Winchester, of New York, is president, W. S. Montgomery, vice-president, V. M. Montgomery treasurer, and Yates Smith secretary and assistant treasurer.

Greenville, S. C. — Negotiations looking toward the purchase or lease of the Lullwater Mill building in this city are now under way, a large silk concern being interested in the proposal to establish a plant here.

Rrepesentatives of the company have inspected the Lullwater property on the Laurens road, but made public no information regarding their plans. The name of the company is also being withheld until something of a more definite nature is available.

The plant, it was said, offers all of the facilities sought by the company in making their inquiry for available sits in or near Greenville. In the event they are satisfied it is presumed that an agreement could be reached with the Candler interests, owners of the Lullwater Mill, since the plant has not been in operation for several years.

Hartsville, S. C. — A new dyeing, bleaching, finishing and mercerizing plant, to be known as the Hartsville Bleachery, is to be built here by Fred B. Voegell, president of the Easton Finishing Company, Easton, Pa., Robt. W. Bole, treasurer of the same company, and a number of local business men. Mr. Voegell will be president and Mr. Bole treasurer and sales manager of the new company.

The new plant is to be equipped to bleach, dye, mercerize and finish cotton piece goods, and the plant to be built will be modern in every respect, equipped particularly to

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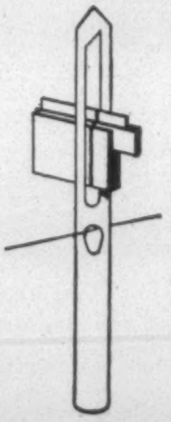

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handle the cloths made in the mills within a fair radius of Hartsville. The building is to be 800 feet long, providing for continuous production, permitting the gray cloth to enter the bleach house at one end of the building, going through the various processes, to be folded and packed in the finished state at the other end.

There will be an upper floor over part of the building for technical work. The building will be equipped with sprinklers throughout, and with a sprinkler tank of 75,000 gallons capacity.

There will be three boilers, approximating 600 hours power. An architect is now working on the plans and specifications.

Spartanburg, S. C. — The Powell Knitting Mills, manufacturers of cotton half-hose, will double its plant and village and install a dyeing department in the immediate future, according to the local office of Lockwood, Greene & Co., engineers and architects, which firm has in hand all plans, specifications and details. No estimate has yet been given out as to the cost of the project.

The Powell Mills employ around 170 persons and this number will be more than doubled, according to Ralph M. Powell, manager of the plant, who announces that the operative dwellings will also be more than doubled. The output now is 1,200 dozen cotton half-hose daily. Officers of the mill are: Edward Powell, president; George J. Powell, treasurer and George R. Graff, secretary, all residents of Philadelphia.

Honea Path, S. C.—The Chiquola Manufacturing Company has decided to increase the size of the mill addition recently awarded to the Gallivan Building Company. The original contract was for an extension to present mill of 78 ft., 8 in., x 131 ft. 4 in., in length and 130 ft wide. creased by the addition of four bays, making a total extension of 131 ft., 4in., in length and 130 ft wide. The original plan to add 5,000 spindles and complementary machinery has not been changed at present, but new space will allow for further machinery increases later. J. E. Sirrine & Co., are the engineers.

Laurens, S. C.—With representatives of Deering, Milliken & Co., present, the annual meeting of the Laurens Cotton Mils was held last week. The board of directors were reelected, as were the administration officers, including N. B. Dial, president; F. J. Hale, of Boston, vice-president; W. S. Montgomery, of Spartanburg, general manager and treasurer, and M. L. Smith, of Laurens, assistant treasurer.

A 5 per cent semi-annual dividend on the capital stock of $1,050,000 was declared and will be payable January 2. The Northern stockholders and directors of the mill were joined here by Mr. Dial, who presided over the meeting.

Pickens, S. C. — Pickens Cotton Mill, with its 23,000 spindles and 622 looms has begun night operation in in addition to its full day schedule. The output of the mill will be practically doubled by the additional shift, and the payroll will be increased proportionately.

In order to care for the new employes, 65 new residences have been erected in the mill village. They are attractive in design, and are modernly equipped with water, sewerage and electric lights in keeping with the rest of the mill community. Several new streets were opened to provide convenient sites for their location. The resulting increase in population gives the mill village a total of nearly 1,000 inhabitants.

Tulsa, Okla.—The bleachery of the Sand Springs Cotton Mill, operated by Hesslein & Co., of New York, will be in operation about January 1, Alf G. Heggem announced at a meeting the board of directors of the Tulsa Chamber of Commerce. The mill is running at 70 per cent capacity now and employing 245 workers. Within a few weeks, the mill is expected to be running full capacity, he added.

Shelbyville, Tenn.—Arrangements for building the plant of the Maryland Silk Company, here have been completed, according to Sidney M. Edlestein, engineer, of Union, S. C. The first unit of the plant will operate 50 looms on broad silks and a second unit of similar size will be installed later. The mill will weave rayon and pure silk and will be moved from the present plant in Paterson, N. J., as recently noted.

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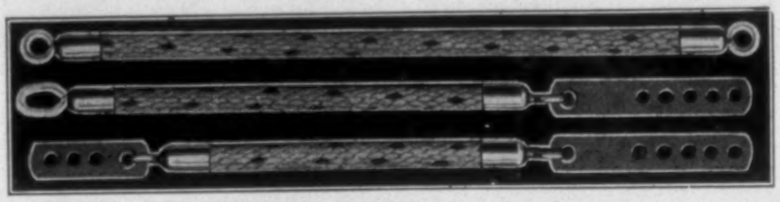
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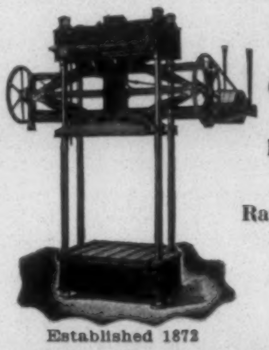
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Killian and Rhyne Buy Georgia Webbing Co.

Columbus, Ga.—Purchase of the Georgia Webbing and Tape Company, manufacturers of narrow fabrics, by J. R. Killian, of North Mass., and C. A. Rhyne of LaFayette, Ga., has been made.

The transfer of the stock brings to Columbus a man of many years experience in the textile world, Mr. Killian leaving college 36 years ago to enter cotton manufacturing. He has held the position of superintendent and general manager of some of the largest mills in North and South Carolina and for the past four years was manager and agent of the Beaver Mills, located at North Adams, Mass.

The new management will consist of Mr. Killian, as president, Mr. Rhyne, vice-president, and W. I. Hudson, Jr., secretary and treasurer. The business will be conducted as heretofore and will be enlarged from time to time as business requires. Painters are now at work going over the inside of the plant. The intention of the new owners is to add considerabty to the present building and machinery if the business warrants. There is ample room in the rear of the present plant for a large addition.

The business was founded in 1920 by the late John S. Roberts and C. M. Young, the former becoming president and the latter treasurer and sales manager. The business prospered to such an extent that is was necessary to enlarge the backyard building, located on Fifth avenue in the rear of Mr. Robert's residence, three times. It was soon evident that it would be necessary to construct a larger building for the additional machinery that was required to care for the increasing business. In 1924 real estate was purchased on Twelfth avenue, near Thirteenth street, on which a model mill building was erected of brick and concrete construction. It has 9,000 square feet of floor space.

On the death of Mr. Roberts last March, the management of both manufacturing operations and sales was taken over by Mr. Young and Mr. Hudson. However, Mr. Young had outside interests requiring his atention and decided to sell his interest. Mr. Hudson has charge of the office and the shipping department. The company has more than 300 styles of narrow fabrics and the goods manufactured at the local plant find their way into products made from Maine to California, the textile and automotive industries having many uses for the fabric.

Glanzstoff Makes Selling Arrangements

Following the program of persistent expansion of their business in the United States and in preparation of their new plant which will commence production in 1928, the American Glanzstoff Corporation, 180 Madison Avenue, has gradually arranged for a complete system of agencies in all the textile centers of the United States for the distribution of their yarn.

At present they maintain a sales representative in Boston, Mass., Allan B. Greenough, covering the States of Maine, Massachusetts (with the exception of Fall River) New Hampshire and Vermont.

Charles S. Fowler of Westerly, R. I., covers the States of Rhode Island, Connecticut and the City of Fall River, Mass.

C. A. Byles of Chattanooga covers the States of Alabama, Georgia, Kentucky, Louisiana, Mississippi, Tennessee and Texas.

William A. P. MacKnight of Philadelphia, Pa., covers the States of Delaware, Maryland, Pennsylvania and New Jersey, with the exception of Paterson.

A. L. Hill of Burlington, N. C., covers North and South Carolina, Virginia and West Virginia.

Geo. T. Hutchinson of Chicago, Ill., is the representative for the Middle West.

John R. Kenworthy of Amsterdam, N. Y., is the representative for the up-state New York territory.

An office of the American Glanzstoff Corporation is maintained in Paterson, N. J., in the U. S. Trust Company Building, covering the Paterson district.

The American Glanzstoff Corporation is now the sole importer and distributor of the yarn manufactured by the United Glanzstoff concerns of Germany, one of the world's largest producers of rayon, with factories in Germany, Italy, Austria, Czecho-Slovakia, Spain, Japan and now in Elizabethtown, Tenn.

N. C. Meeting This Week

The Cotton Manufacturers Association of North Carolina is to hold its regular mid-winter meeting at Pinehurst on Friday and Saturday of this week. The convention will hold a business session and a dinner session. The principal speaker will be Theodore H. Price, of New York. A number of important matters are to come before the business meeting. The golf tournament and the entertainment features have a prominent place on the program.

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Master Mechanics Have Interesting Meeting

(Continued from Page 21)

A Member: Yes, if they are not ground to fit the shaft you will have some trouble. If you don't grind them you have some trouble with them. There is a plant there now making them and grinding them and I think they have an allowance of possiblly 1 or 2/1000 and you don't have any trouble with the lock washer. At least that is my experience.

The Chairman: Anybodys else any experience with these motors?

Mr. Queen: Mr. Chairman, I have two motors but I haven't had any trouble yet. I can't offer any suggestions on how to avoid the trouble. We have had ours in about eight months. We haven't lost any motors but during this eight months we re-tied the nuts on our pinions every two months, and are going to continue that until those motors are a yea rold. We use 550 volts; the motor is built for 600 amperes, and we don't increase on our fuse and don't have any trouble with fuses blowing, but we did to start with until those looms got limber, but we take a test on each motor once a month, giving a reading of the load of the different motors and we turn that over to the overseer and have his men check this load.

The Chairman: What size motor is on your loom?

Mr. Queen: A half horse.

The Chairman: And your loom is Model E Draper?

Mr. Queen: Yes, sir.

The Chairman: Latest type?

Mr. Queen: Yes, sir.

Tests on Motors.

The Chairman: You say you had some tests on those motors. What do you find your motors draw from the line with loom in operation?

Mr. Queen: Average 70 amperes to the motor. Some of them will go 75; some won't go over 65. I checked that and found some places you have got a full warp on your loom and they have a little higher reading than you will if your warp is practically empty. The reason I checked that was to find if it was the loom having too much friction on it or whether it was on a heavy warp, and I find the heavy warp lying in the stand caused more friction than the smaller warp did, say practically empty, and it took a little more power to pull it.

The Chairman: You stated a moment ago where you found the current excessive you reported this loom for check up by the department. What do you consider excessive current on that motor?

Mr. Queen: Over 75.

The Chairman: Over 75?

Mr. Queen: Yes, sir; because the motor is only built for 60 and if it goes over 75 we consider it excessive amount of current being consumed by the motor. We take the ticks per ampere at the same time we take the reading off the motor. The less ticks this loom is making the less amount of current you are using and that's the reason we check both ways to see if one goes too high we check it against the other.

A Member: Mr. Chairman, something about over-loading a motor, or at least he didn't exactly refer to it, but I want to ask if anybody has observed any complaint from the weavers themselves or anybody in the weave room, about the excessive heat in the summer time from direct connected motors on the looms?

A Member: W found our motors running a lot too hot. I don't remember what the check up was on it, but it was a whole lot hotter than it should have run. We found it on shirt goods for one thing, and we had from 20 to 28 harness about 40-inch loom and half horse motor is entirely too small.

The Chairman: Did your operatives complain of discomfort due to the heat of those motors in the room?

A Member: No, they were very hot but I haven't heard of any complaint, not from the weavers. It is pretty hard to keep the room temperature down when you have a room full of looms running.

Deep Wells.

The Chairman: Anybody else anything to say about deep wells and deep well pumps? Itis something most of us I imagine are affilicted with. (Laughter.)

A Member: Mr. Chairman, I was afflicted with deep wells. I did away with all my pump heads and threw them in the scrap. I have four wells, and I guess the furthest one apart is nearly a quarter of a mile, and I have an Ingersoll-Rand and I pump out of all four of these well, put in a bin close to my pump and I take a Triplex pump and put it in the tank and I find that has given considerably better service than these motor driven heads in the pump house.

The Chairman: I want to ask you what induced you to make the change?

A Member: Trouble with current going off and automatic switches not working properly and having to send a man from the engine room to take care of them and have to wait until that come about.

The Chairman: Have you any check on the comparison of cost of operation between the two?

A Member: No, nothing more than general observation.

The Chairman: Your general observation is that it is cheaper?

A Member: Yes, sir; I haven't had to pull one of those air lifts and it has been in three years.

The Chairman: How deep are the wells?

A Member: About 140 to 170 feet.

The Chairman: I am glad to hear this gentleman say something about air lifts, because I have been interested in that myself. Anybody else got air lifts? Anybody use deep well water for boiler feed pumps?

A Member: I am using it partly. I have half deep well water and half pond water.

The Chairman: I want to ask if you notice any difference in the incrustation in your boiler after starting with the deep well water over what you had before you used it?

Excessive Incrustation.

A Member: Well, originally we had a nest of service wells about 18 or 20 feet deep; had 15, I think, piped up together, and they used that altogether for boiler feed, and the incrustation was heavy. It was excessive. We had to work with it all the time, and we had our pond water but we couldn't use that. We tried that as a whole, but we couldn't on account of foaming and we bored this deep well 160 feet deep and use that for drinking water and humidifying purposes and had some left over and run that into our well and tried using that half and half, that and pond water, and I have been using that for about eight years and I have never been bothered with scale. I have never had to treat the scale any; there is a slight scale in the water, but not enough to do any damage.

The Chairman: It improved your foaming condition then?

A Member: Yes, I never have any trouble with foaming.

The Chairman: Can we have something from somebody else on deep wells?

A Member: I don't know what effect that deep well water would have by itself; I have never used it by itself.

A Member: Mr. Chairman, I would like to hear someone whoknows a lot more than I do, for I haven't had a great deal of experience, if they have overcome sand in well. I have several wells bothering us that way. It is getting through the sulphur and it is bothering us in dyeing. Of course sand is not soluble; we know that, but it don't look good. I would like to hear fro someone who has had that experience. I would like to know what to do. I tried to take a strainer, but if you get a strainer that will catch the sand you also stop the water. Some of these fellows, Mr. Iler or Mr. West or some of them who have had a lot of experience, I would like to hear from you.

The Chairman: Personally, I haven't met with that problem. Mr King might have.

Mr. King: No, I haven't.

Mr. Queen: I had that once. You can't get over it in the well, unless you have the casing drawn and re-drilled and case this sand out. I had three wells at one mill; all three had sand to get out. We built a filter and pumped from these into the filter and

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took from the other side with a little centrifugal pump. That's the way we worked to get it out of our drinking water ,but to stop it in the well, I don't know of any way except like casing the well.

THE CHAIRMAN: Then there are only two methods, of getting around that, one is to re-case your well, or provide some suitable and effective form of filter for the water after it is taken out of the well.

MR. QUEEN: That's all we could find. The well I have now furnishes sand. We hope to do away with it on that account.

Too Much Sand.

THE CHAIRMAN: Does that answer your question?

A MEMBER: No, sir. It is impractical; we can't pull the casing or drive it in further. The case is down about forty feet now and we struck rock there and further down there is a soft strata of rock, and the well digger said he couldn't.

THE CHAIRMAN: And you don't have a satisfactory filter?

A MEMBER: No, sir, and didn't want to put one in. Of course it would cost some money.

A MEMBER: Wouldn't it settle to the bottom in a reservoir?

THE CHAIRMAN: How about that?

M8. QZ55&: You mean a filter?

A MEMBER: No, just a reservoir.

A MEMBER: In a month's run from the two wells we would have something like two inches accumulation of sand in the bottom of the filter we built, which was six feet square, four feet deep.

THE CHAIRMAN: I believe this gentleman's idea was to pump your water into a reservoir of large capacity and let that water stand there and the solid matter that is in it precipitate itself before you use it.

A MEMBER: Yes, sir; we have a large concrete reservoir. Pump this water in; it goes in one side and a pump takes it out the other end, and before the water comes from up that end the sand is all to the bottom. Of course the chances are you will have to clean it out sometime, but I haven't yet.

A MEMBER: What we wanted to eliminate, we pump our water in an elevated tank and we wanted to eliminate these pumps and all that stuff. It costs money, you know, and I thought probably somebody had experience along that line getting the sand out first. We had thought about the filter.

MR. KING: What is the size of the tank?

A MEMBER: 65,000, or rather two, sixty and sixty-five.

MR. KING: How much water?

A MEMBER: One well about fifteen gallons per minute and the other about twenty or twenty-five hundred galons every hour. We hate to give them up, or at least discard them, but we are going to have to on account of the sand.

MR. KING: It looks like you might settle this sand out in a higher tank and let it flow by gravity into your main tank.

A MEMBER: The tank is 130 feet high; I don't know whether that would be practical.

MR. KING: You would only have to get high enough for it to flow from your settling tank into your main tank. Pump it into your small settling tank and let it settle. All you need it a little time for it to come to a rest and it will settle out.

A MEMBER: The only thing about that there would be another pump to get it up into the settling tank.

MR. KING: No, I mean to put the settling tank higher than the tank you are now pumping into, just high enough that it would flow into this tank you are now using.

A MEMBER: That would hardly be practical. It is an elevated tank; it is not on a mill. It wouldn't look right in the first place.

THE CHAIRMAN: You haven't any elevation anywhere you could put this tank he is talking about on?

A MEMBER: Nothing only by using a pump. We haven't anything that would be anywhere near the elevation of the tank. The tank is about 135 feet.

THE CHAIRMAN: That looks like a proposition you are going to have to spend some money on.

How about somebody telling us how they repair loom crank shafts.

Repairing Loom Crank Shafts.

A MEMBER: We patch ours.

THE CHAIRMAN: What's that?

A MEMBER: We fix ours. (Laughter.)

THE CHAIRMAN: I thought you said you patched yours. I was going to ask what you patched with. Mr. McWhirter, what do you do, like most everybody, take two old crank shafts and make one out of them?

MR. MCWHIRTER: Yes, sir.

THE CHAIRMAN: Do you use direct current for welding?

MR. MCWHIRTER: Alternating current.

THE CHAIRMAN: You make a satisfactory and strong enough weld on the crank shaft?

MR. MCWHIRTER: I have been welding them for two years, and I have seen one broke and come back. I don't know how they are going to hold up.

THE CHAIRMAN: That's about as long as they run new, isn't it?

A MEMBER: I had a little experience. The loom fixer brought one back and said it was broke. I said "I'm sorry; it seems somebody else's have been breaking too." The way we fix that we take the shaft, two old shafts, and saw them in two and leave them ¾-inch long; we take the short end and turn it down and use a dow pin on one about ⅝-inch in diameter. We bore the other crank shaft and sew it or drive them together. We have a templet made at the foundry. We lay those shafts on those templets to get the crank arms perfectly in line and then we weld that with an electric welder and we taper our shaft back and start in and build up from the bottom, and the last two years or eighteen months I have seen one shaft come back broken where it was welded, but I lay that to the unexperienced welder. Of course that electric welder is strong; it will hold.

THE CHAIRMAN: Does that electric welding outfit have any form of rectifier to change it from alternating to direct?

A MEMBERS Yes.

Electric Welding.

THE CHAIRMAN: Do you weld with a direct current arc or an alternating?

A MEMBER: We use an alternating arc to give us a strong weld. Take those calendar rolls or picker rolls, you know they are pretty bad. An electric welder is one of the best pieces of machinery you can put in a machine shop. You can take a crank shaft where it wears down the gear even; you can take that and rebuild it and turn it down again, and it is as good as it ever was. I do not see how I could do without an electric weld. You can take those rolls and build them back up and turn them over. We have fixed five or six hundred; probably more than that. They come out of a loom worn down the size of your finger, and we build them back up with the electric welder and turn them off.

THE CHAIRMAN: Just one more question. Do you find the electric welding with alternating current arc satisfactory on cast iron parts?

A MEMBER: Yes, sir, but I wouldn't advise using the electric welder on cast iron parts. It makes it so hard. They will come around and demonstrate to you and tell you you can.

THE CHAIRMAN: Don't misunderstand me. I am asking you because I have one myself. (Laughter.)

A MEMBER: Repeat that again. I want to get that straight.

THE CHAIRMAN: Do you find welding with the alternating current arc satisfactory on cast iron parts?

A MEMBER: No, sir.

THE CHAIRMAN: Anybody else got electric welders?

Getting back to this crank shaft repair, does anybody repair those crank shafts in any other way than by welding by the electric weld?

A MEMBER: How about a weld in the forge? I use that system. As you all do, we take two and make one. We bore a hole some half an inch in each end of the pieces that come together just like this man was talking about the electric welder. Then we saw off a pin and drive those in the old blacksmith way, and we have had good success that way; hardly ever have one broken.

THE CHAIRMAN: Anybody weld crank shafts with the oxyacetylene process?

MR. QUEEN: We got very good satisfaction out of it, but I wouldn't say entire satisfaction; we did have some breaks.

THE CHAIRMAN: Gentlemen, one mill has written in here concerning straightening steel beam heads that have been bent or spurng through mishandling. Personally I have no experience with that matter, and if there is anyone here who has had I am sure there are more than myself who would be glad to know something about it. I may have a steel beam head some day. I don't know. Mr. Heaton, haven't you had some experience along that line?

Straightening Steel Beam Heads.

MR. HEATON: We just find them a job. It is just a job to straighten them, and I can't say I have ever gotten one absolutely straight, but the way I went at it was a flat face anvil I would call it pulled down through the center and had about eight clamps around the rim and I had it red hot and left it until it was plumb absolutely cooled off. When it is pulled down it's obliged to be straight, but when you turn her loose she's not straight. So if anybody can give me any help on that I would love to have it. We have a heap of them. The beam heads are 36 inches in diameter.

THE CHAIRMAN: How thick is the stock of those heads?

MR. HEATON: Not over 3/32.

THE CHAIRMAN: That is a one piece head, is it?

MR. HEATON: Yes, sir. You couldn't put it in a lathe because it is too thin; you see you would cut in some of them before you would get a straight face; you would cut through in some places.

A MEMBER: Mr. Chairman, I have unfortunately had a little experience along that line. The way I tried was on the order this gentleman was telling us, only I did it cold or tried to. I put the beam in the shop house on the basement floor with a jack, with a good deal of pressure and took a hammer and of course it stayed wherever you put it cold, but some of our heads were two piece heads. You can't do that way with them, but with one piece heads you can do that way, and we have some of each. They work fairly good, but it is almost impossible to get them absolutely true.

THE CHAIRMAN: Anybody else? This wooden head you spoke of a moment ago, do you make that head or buy it?

A MEMBER: Buy it already made.

THE CHAIRMAN: Is it a several ply veneered head?

A MEMBER: Yes, sir.

THE CHAIRMAN: Do you find that more satisfactory?

A MEMBER: Yes, sir. Building up the beam instead of having two beams made, build up the old beam and cement it and turn it back down and put those wooden heads on.

THE CHAIRMAN: How about the cost of those heads as compared with cast iron or steel heads?

A MEMBER: I think they cost a little more—not much.

THE CHAIRMAN: Well, gentlemen, I believe the concensus of opinion is concerning sprung or bent steel beam heads, "it just can't be did." Is that it?

Now gentlemen, here is a mill has asked the question, "Which is most Economical to use in a Textile Plant, the Acetylene Torch of Electric Welding Machine?" Some of you may be like myself, you have both, and you perhaps are able to draw comparisons that way.

Acetylene and Electric Welding.

MR. MITCHELL: About that electric weld, you asked the question of welding cast iron with an electric weld successfully with alternating current. Would it be successful with direct current?

THE CHAIRMAN: Now, that's the point which I hoped to draw out. I have had no personal experience with welding cast iron on direct current arc at all. I have heard the direct current arc is better on cast iron than the alternating. I don't know. I have not firsthand knowledge. The welding of cast iron with the alternating current arc generally speaking is not satisfactory, just like Mr. McWhirter said, although in our experience we have found there are certain parts in the mill which are more satisfactorily welded with the electric welding machine than they are with the oxyacetylene. The electric welding process lends itself admirably to the matter of building up worn journals and that sort of thing. It stands out above the oxyacetylene process for that purpose, in my opinion.

Now, when it comes to this question here as to which is the mos economical, I think that could be answered very readily by saying from the standpoint of economy alone the electric welding process is far cheaper than the oxyacetylene, but now if it is a question of whether or not one or the other is the best for all jobs, in my opinion both have their place in the general run of mill repair work. That's the way it has panned out with us and we have been using the electric welding machine for a little more than two years. I understand the electric welding process is stated to be capable of performing all the welding operations around a cotton mill more satisfactorily than the oxyacetylene. I do not agree with that statement at all. If some of the others have both processes, I would like to hear what you have to say about that.

MR. MITCHELL: Mr. Chairman, now I like welding solid pieces, say a door or spinning frame, thin cast sheeting, or anything with expansion, the advantage of the electric weld is due to not so much expansion is about all I see, and less heat.

THE CHAIRMAN: That's true, because in welding particularly thin pieces the heat

(Continued on Page 32)

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Gibson is Dinner Host

Biscoe, N. C.—W. H. Gibson, Jr., superintendent and manager of Aileen Mills, Inc., was recently host at a duck supper to a number of employes of Aileen Mils, Inc. Among those enjoying the supper were Messrs. W. H. Gibson, Jr., C. F. Reynolds, trainmaster, Norfolk-Southern Railroad, as honor guest, A. L. Cranford, W. Lyle, J. M. Blake and Ed. Horne, overseers of Aileens Mills, W. I. Asbill, master mechanic, W. H. James and R. D. McLeod, of the finishing department, and Dewey A. Gibson, Charles G. Buice and Walton C. Daligny from the office. After the supper, matters pertaining to the continued successful operation of the mill, in general, were discussed. Mr. Gibson expressed his appreciation of the cooperation and support given him by all present, and Mr. Reynolds made a brief speech, in which he expressed the appreciation of his company of the cooperation given him and other officials in the handling of shipments from Aileen Mills. He stated that the friendly relation between Aileen Mills and Norfolk Southern Railroad had grown to such an extent that it was a genuine source of pride to him and other officials of his company. Short talks were then made by all others present.

Incidentally, the ducks were furnished by H. C. Long, Jr., treasurer of Aileen Mills, Inc., shipped in from the Eastern part of the State. So, he not only shot at the ducks, but he brought home the bacon.

A Force for Textile Good

That the Cotton-Textile Institute has accomplished startling results in the brief period it has been functioning, and that its achievements to date have justified its foundation, was virtually the unanimous opinion of the many cotton manufacturers attending its first annual meeting in New York last week. Already it has produced important psychological and practical effects.

The textile industry was very broadly represented at the meeting. Of the country's 32,300,000 active cotton spindles, 13 to 14 million were represented in person by manufacturers present. Selling agents in attendance represented most fo the remaining spindles. The Institute now includes companies controlling 21,500,000 spindles, or two-thirds of those in operation in this country.

It was but a year and a half ago that the idea of the Cotton-Textile Institute was first conceived. Organization took place a year ago. Office was assumed two months later by President Walker D. Hines, to whom is given the lion's share of credit for subsequent accomplishments. Only for six months or so have the three main divisions of statistics, cost accounting and new uses been fully operating.

In but a half-year, employing and enlarging upon sources previously existing, the Institute has built up statistics covering around 65 per cent of the cotton cloth production of the country. In specific groups where organization is more complete, very much more inclusive figures are available. Thus over 95 per cent of the country's wide sheetings production is covered, as against 40 per cent when the Institute was started. Over 90 per cent of the narrow sheeting industry is covered. About 71 per cent of all cotton printing machines are reported. Over 1,000,000 carded yarn spindles in 132 mills are now covered, whereas formerly there were practically no statistics as to carded yarn sales. Statistics regarding print cloth woven by 5,500,000 spindles are now tabulated.

The ready availability of figures for sales, production and stocks of individual constructions is of the utmost importance. It will be possible for a mill manager to estimate very much more accurately whether he will make money on production of certain lines. Of course, the real test of the Institute's worth will come when it may be necessary for the industry to reduce output in view of falling public demand. Through the Institute's figures, manufacturers will be better able to apply ordinary common sense in balancing production with consumption.

In promoting and assisting installation of accurate cost accounting systems, the Institute is rendering another very valuable service. Inaccurate cost figuring is a great fault, for it may lead a mill unwittingly to put its selling price below the cost of production, and thus break the price for millions of yards of that cloth made by other mills.

In standardization and simplification of sizes and grades good work is being done. As to hospital and institutional textiles, for instance, the Institute has assisted in simplification of bed sheets from 50 to four stock sizes; in pillow cases from 47 to 2; spreads from 54 to 2; bath towels from 42 to 2 and hand towels from 79 to 4.

Another valuable form of Institute activity was in formation of a code of trade practices for the carded yarn group. The code has virtually eliminated speculation in carded yarns and has established a better understanding between mills and agents.

The above accomplishments are mostly tangible. Other intangible benefits already are being realized. Through the individual groups, competing manufacturers are being brought face to face more often, are better acquainted with each other and are developing greater mutual confidence.

The textile industry has long been considered about the worst merchandised in the country, but this situation may be remedied when there is greater co-operation between competing organizations in shaping of production to consumption and avoidance of over-supply. It may be possible for the industry generally to hold out for fair prices for its products. The textile industry has by no means worked free of the ill effects of over-development, but the Institute much more than any other agency is in a position to be of real service.—Boston News Bureau.

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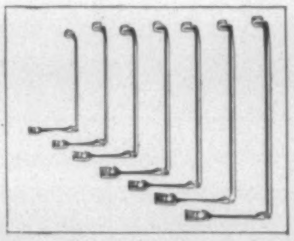

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Master Mechanics Have Interesting Meeting

(Continued from Page 29)

is so centralized and it is limited in the amount used that you never get enough heat out into the part to set up the expansion which gives you trouble with the oxyacetylene torch. That job you are talking about though is a job that requires right skill on the part of the operator. I have tackled a few of those myself, and I have got into all sorts of trouble with them, but I have a man who is an unusually skillful man and after about six months' practice with the electric welding outfit he has gotten so he don't mind tackling anything that comes along. He has learned what to do and what not to do, and to use the electric welding machine successfully I believe is more a matter of skill than anything else, and judgment.

MR. MITCHELL: I don't know a thing about it. I was asking for information.

MR. QUEEN: Although you can take the acetylene torch and weld these doors he is speaking of, you can take the acetylene torch and put back the hub and spokes in a gear without busting the rim, without pre-heating it, and to do that I would rather put the oxyacetylene above the electric for all around purposes.

THE CHAIRMAN: Well, any man can take the electric machine and he can weld the rim and spokes of pulleys and gears successfully every time almost. Now and then he will miss one, but almost every time he can make a successful job with the electric machine, and he cannot do that with the acetylene machine, or I haven't been able to.

MR. MITCHELL: Here is another question I would like to find out something about. Is a piece welded just as god as it was before it broke? I do not find it that way. Now we all know if you get a good weld on a piece of cast iron you have to weld it solid. A soft weld you can't. and I have never found a welded piece just as good as it was before. I would like to hear somebody say something about that.

THE CHAIRMAN: In connection with that, Mr. Mitchell, I would like to make this statement concerning some tests I have made with electrically welded cast iron pieces. We noticed that a cast iron part electrically welded that has more length than it does width, broke way about the center. In fact, we got some pieces and broke them and welded them to make these tests. We found out, we laid those pieces on supports and broke them with a hammer blow and they would invariably break on the side of the weld—one side or the other rarely broke in the weld. We come to the conclusion, after a good many of these tests, that that was due to the fact that the character of the metal itself on each side of that weld was changed by the very process of welding it and weakened.

Mr. Burdette has a very skillful welder in his plant, as I happen to know. He might be able to give us something.

MR. MITCHELL: We have a good one right here. That gentleman right there. I don't believe he can say he can weld as good as it was before it broke.

THE CHAIRMAN: How about it, Mr. Burdette?

MR. BURDETTE: I don't think it is as stout. I think the crystallization sets in on each side of the weld that would cause it to give way there, while it is very satisfactory in some respects.

THE CHAIRMAN: I believe, though, that all you gentlemen will agree with me in the statement that in most cases it does affect a satisfactory repair. What I mean by that is that there is an advantage and a saving in welding and I think a welded part is more economical than replacing that part with a brand new one.

MR. MITCHELL: I think so too.

A MEMBER: Right where that was welded it is stronger there than any other place though, isn't it?

THE CHAIRMAN: It is when you think about this, the change that has taken place. I don't know whether it is stronger there than anywhere else or not, but it is stronger in the weld than on each side of the weld.

A MEMBER: It is stronger in the weld than it is within three inches of the weld.

THE CHAIRMAN: That may be true. I didn't carry my test far enough to determine that, but what I was trying to develop was whether there was a weakness developed on each side of the welding, and I am convinced there is, certainly with the electric machine.

MR. MITCHELL: Mr. Chairman, you will find that break will always be about half an inch or three-quarters from the original weld. I have broken many a piece just to see.

THE CHAIRMAN: My observation confirmed that. Anything else on welding, gentlemen?

Our time has expired. We set an hour for this session. I want to tell you how glad I am that as many of you came to this meeting as did come, and to tell you also something of my gratification that a number of you at least have been willing to take par in the discussion ad say exactly what you think about things. Now that is geting somewhere. That is what this Division was organized for primarily, in order that we could be helpful to each other and at the same time affect material economies in our line of work in the mills.

Among Those Present

Among those who attended the meeting of the Master Mechanics at Spartanburg, were:

Andrews, George F., Pres., Greenville Spindle & Flyer Co., Greenville, S. C.
Bragg, C., Master Mechanic, Lydia Cotton Mills, Clinton, S. C.
Brown, M. P., Taylor-Colquitt Co., Spartanburg, S. C.
Burdett, I. M., Master Mechanic, Monarch Mill, Lockhart, S. C.
Butterworth, J. E., Vice-Pres., H. W. Butterworth & Sons Co., Charlotte, N. C.
Chapman, Jas. A., Jr., V.-Pres., and Supt., Inman Mills, Inman, S. C.
Clark, David, Editor, Sothern Textile Bulletin, Charltte, N. C.
Coleman, F. H., Master Mechanic, Laurens Mill, Laurens, S. C.
Dutemple, Wm. P., Salesman, Whitinsville Spinning Ring Co., Spartanburg, S. C.
Garrett, T. W., Master Mechanic, Easley Mill No. 1, Easley, S. C.
Goode, J. N., Master Mechanic, Haynes Mill, Avondale, N. C.
Gower, T. Chas., Greenville, S. C.
Gregg, J. M., Secretary, Southern Textile Association, Charlotte, N. C.
Gregory, R. N., Supply Clerk, Monarch Mill, Lockhart, S. C.
Hardin, L. H., Elec. Engineer, Mees and Mees, Charlotte, N. C.
Harris, C. R., Asst. Supt., Inman Mill, Inman, S. C.
Heaton, W. E., Chief Engineer, Balfour Mills, Balfour, N. C.
Hicks, C. C., Master Mechanic, Alexander Mfg. Co., Forest City, N. C.
Holland, P. L., Engineer, Mees and Mees, Inc., Charlotte, N. C.
Iler, H. H., Plant Engineer, Newberry Cotton Mill, Newberry, S. C.
Iler, J. G., Rep., Crandall Packing Co., Birmingham, Ala.
Jackson, A. I., Master Mechanic,

Victory & Winget Mills, Gastonia, N. C.
Kay, T. E., Master Mechanic, Woodside Cotton Mill, Fountain Inn, S. C.
King, G. T., Supt. of Power, Lancaster Cotton Mills, Lancaster, S. C.
Kincaid, L. M., National Weaving Co., Lowell, N. C.
Knox, L. B., Master Mechanic, Eureka Mills, Chester, S. C.
Lattimore, T. D., Master Mechanic, Eastside Mill, Shelby, N. C.
Leathers, W. H., Master Mechanic, Middleburg Mill, Batesburg, S. C.
Leonard, D. C., Chief Eng. and M. M., American Spinning Co., Greenville, S. C.
Lewis, E. S., Salesman, Baltimore, Md.
McKee, W. A., Master Mechanic, Piedmont Mill, Greenville, S. C.
McRay, W. H., Master Mechanic, Woodside Mill, Simpsonville, S. C.
McWhirter, E. P., Master Mechanic, Monarch Mill, Union, S. C.
Mehaffey, J. J., Master Mechanic, Consolidated Textile Corp., Lynchburg, Va.
Mitchell, M. J., Master Mechanic, Mollohon Mill, Newberry, S. C.
Noblitt, J. G., Overseer Weaving, Easley Mill, Easley, S. C.
O'Brien, E. W., Editor, Southern Power Journal, Atlanta, Ga.
Oliphant, A. D., Textile World, Greenville, S. C.
Prince, S. L., Master Mechanic, Franklin Process Mill, Fingerville, S. C.
Queen, G. C., Master Mechanic, Oakland Mill, Newberry, S. C.
Railey, T. W., Master Mechanic, Springstein Mill, Chester, S. C.
Roddy, J. H., Supt. of Operation, Southern Power Co., Charlotte, N. C.
Sailes, Fred, Rep., Textile World, Greenville, S. C.
Sorrells, J. A., Salesman, N. Y. & N. J. Lubricant Co., Greenville, S. C.
Southard, J. H., Master Mechanic, Dover Mill Shelby, N. C.
Staggs, C. R., Master Mechanic & Engr., Balfour Mills, Balfour, N. C.
Starnes, B. O., Master Mechanic, Ora Mill Co., Shelby, N. C.
Stratton, George F., Armature Winding Co., Charlotte, N. C.
Telford, J. A., Master Mechanic, Jackson Mills, Iva, S. C.
Thomason, L. W., Sou. Agent, N. Y. and N. J. Lubricant Co., Charlotte, N. C.
Thompson, B. W., Master Mechanic, China Grove Cotton Mill, China Grove, N. C.
VanPelt, E. L., Master Mechanic, A. M. Smyre Mfg. Co., Gastonia, N. C.
Vaughn, R. L., Greenville, S. C.
Watting, T. A., Master Mechanic, Wallace Mfg. Co., Jonesville, S. C.
Way, A. W., Master Mechanic, Edna Mill, Reidsville, N. C.
West, R. E., Master Mechanic, Arcadia Mill, Arcadia, S. C.
West, W. V., Master Mechanic, Victor Monaghan Mill, Greenville, S. C.
Young, W. G., Master Mechanic, Kendall Mills, Paw Creek, N. C.

Sees New Business Cycle

Boston, Mass.—As the chief speaker before the Harvard Economic Conference, Col. Leonard P. Ayres, vice-president of the Cleveland Trust Company and a noted economist, declared that this country is now in the closing phase of a business cycle, and will shortly enter into a new business swing. In his opinion business is now on a downward trend. The upward slope of a new swing will soon be reached, he believes.

"Since the war," declared Col. Ayres in outlining his address to a Boston News Bureau representative, "we have had three business cycles in this country. There was first the inflation period from early 1919 to the summer of 1921. Then there was a recovery cycle, extending to the summer of 1924. The third cycle, dubbed "Coolidge prosperity" began in the summer of 1924, and is still in force, with perhaps a little longer to run. We are in the closing phases of the latter, I believe.

"As to general business, therefore, I draw two conclusions: that business will be worse before it is better, but that there will be improvement relatively soon.

"We are approaching the end of the decline, but the trend is still downward. We might go into 1928 on this slope. In my opinion the peak of the present phase was reached approximately one year ago in the closing months of 1926, with some subsequent reaction, and considerable recovery in the early months of 1927."

In accordance with his annual custom of making at the Harvard Conference predictions as to the coming year's business, as revealed in twelve important respects, Col. Ayres made the following forecasts:

(1) That at the start of the year interest rates will be lower than during the corresponding period of 1927, but that at the end of the year, rates will be higher.

(2) The trend of bond prices will be upwards.

(3) As to stock prices, industrial stocks will reach higher prices some time in 1928 than any yet attained.

(4) Building volume will be greater than in 1927.

(5) Building costs will advance in the second half of the year.

(6) Employment will improve as the year advances.

(7) Wages will be firm, with perhaps slight advances.

(8) The cost of living will show little change.

(9) Wholesale prices will advance moderately.

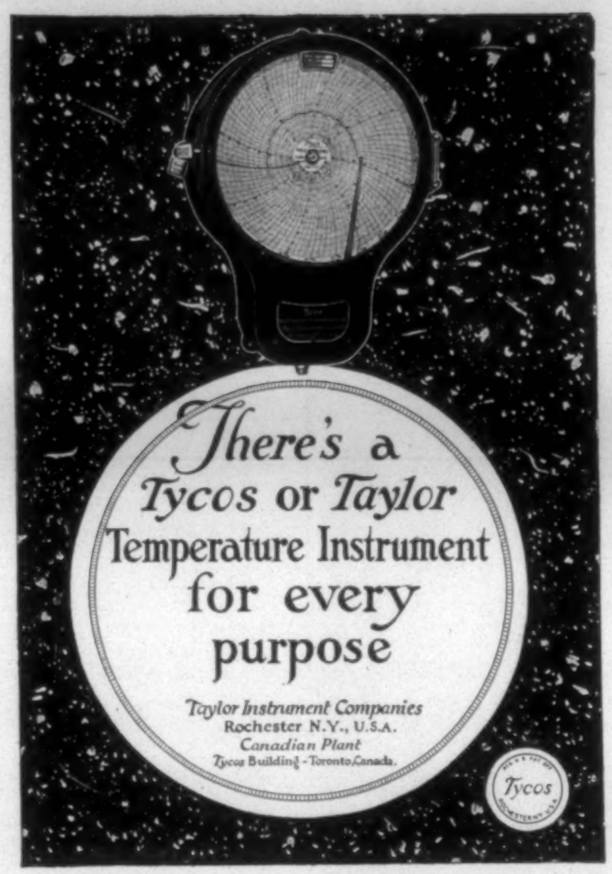
(10) Iron and steel output will be greater than during 1927.

(11) Automobile output will set a new high record to date. This is assuming Ford will come into volume production soon.

Coolidge Awarded Hughes Medal

Dr. W. D. Coolidge, assistant director of the research laboratory of the General Electric Company, has been awarded the Hughes medal by the Royal Society for "distinguished work on X-rays and the development of highly efficient apparatus for their production."

The Hughes medal was first presented in 1913 to Dr. Alexander Graham Bell. Dr. Irving Langmiur, also of the General Electric research laboratory, received it in 1918.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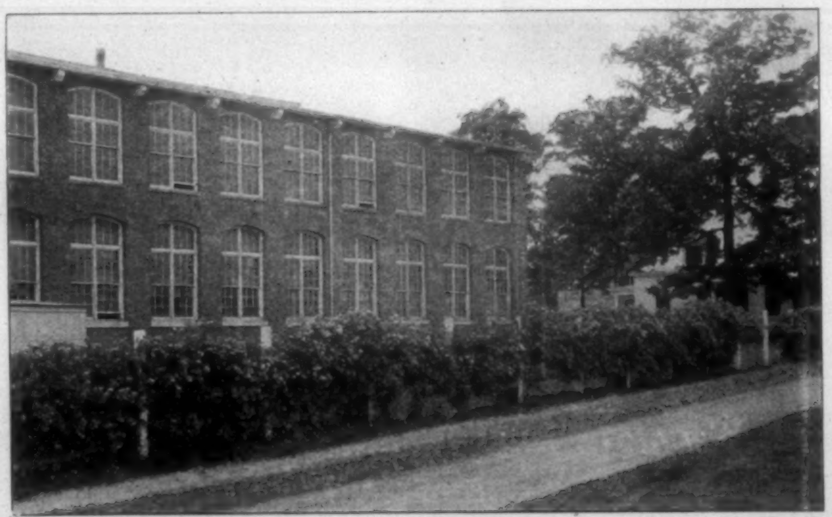
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Why Married Women Choose to Wear Cotton or Silk

(Continued from Page 7)

slips, petticoats, chemises, brassieres, bloomers, drawers, undershirts, knit unionsuits, night gowns, pajamas, and kimonos.

In general, the relatively low percentage of women in cities of 100,000 and over reporting more silk and rayon for the garments listed in Table 2 was due to the relatively higher percentage reporting "no change." Petticoats forms the only exception, in which case "never worn" received a higher per cent. However, "no change" for cities of 100,000 and over undoubtedly refers in a large proportion of cases to no change from the use of silk, and is probably explained by the fact that women in large cities had begun to wear silk and rayon by 1921, whereas in smaller towns the change was made later.

As might be expected with an increase in size of place of residence, stockings showed in general a consistent decrease in the percentage of women reporting "more silk and rayon," the percentage falling from 87 for farm women to 66 for women in cities of 100,000 and over.

The percentage of women reporting more silk and rayon for housedresses, blouses, and bathrobes was lowest for the farm group, and highest for the 5,000-and-under-25,000 grop, the percentages then declining for cities of 25,000 and under 100,000 and 100,000 and over. The change in percentages for aprons showed no trend with change in size of residence groups.

The trend of more silk and rayon for winter dresses is irregular, varying, however, from 38 per cent of the women living in towns of 5,000 and under 25,000 to 62 per cent of those in cities of 25,000 and under 100,000.

No consistent trend was found in the percentage of women in the different residence groups reporting "no change" for winter dresses, bloomers, drawers, undershirts, chemises, and pajamas.

The women who are wearing more silk or rayon now than five years ago were asked to give their reasons for choosing silk or rayon instead of cotton. Six hundred and sixty-three married women listed their reasons. Of this number 203 lived on farms, 127 in towns under 5,000, 110 in towns of 5,000 and under 25,000, 72 in cities of 25,000 and under 100,000, and 151 in cities of over 100,000. Five hundred and five women gave reasons for summer dresses, 370 for winter dresses, 321 for underwear, 102 for nightgowns and pajamas, 132 kimonos and negligees, and 520 for stockings. Only answers referring to reasons for choosing silk are considered here. The following table shows the distribution of replies for each group of garments:

The reasons given by the women for wearing silk or rayon for winter dresses confused in some cases changes from wool with changes from cotton. Inasmuch as wool was the material generally worn in the winter, such mistakes were not surprising. The reasons for choosing silk for minter dresses, therefore, include such replies as "lighter weight," "preferred because of warmer houses," and "easier to clean." Such answers indicate comparison with wool rather than with cotton.

"Laundering" includes, in addition to the replies entered as laundering, such reasons as, silk launders more easily than cotton; silk launders successfully or easily; silk looks better after laundering than cotton; silk requires less laundering than cotton. "Pressing" includes two aspects, silk is easier to press, and silk requires less pressing. "Warmer" covers such answers as, silk is warmer than cotton, and silk provides satisfactory warmth. "Length of wear" covers

TABLE 3

—Percentage of total number answers for—

Reasons*	Summer dresses Percent	Winter dresses Percent	Under-wear Percent	Night-gowns and pajamas Percent	Kimonos and negligees Percent	Stock-ings Percent
Laundering	23.22	7.56	24.59	25.79	11.44	8.11
Easier to clean	.39	3.63	—	—	.42	—
Easier to care for	2.44	4.08	.98	1.58	.42	.11
Pressing	6.05	6.51	2.79	3.16	2.12	.23
Easier to make	1.07	1.66	.16	.53	1.69	—
More stylish	1.07	1.82	1.64	.53	1.69	4.17
More appropriate	2.44	4.24	1.31	1.05	.42	1.01
More attractive	25.17	23.00	12.13	15.79	30.51	36.37
More comfortable	3.22	10.89	5.41	5.26	5.51	4.84
Preference for feeling of material	3.22	4.54	14.10	14.74	8.05	10.36
Warmer	—	4.08	.98	—	.85	.23
Cooler	9.17	2.42	4.75	8.42	3.39	5.74
Suitable for climate	.68	1.36	.16	—	—	.11
Fit better	—	—	—	—	—	1.58
Less bulky	3.41	4.69	14.26	4.74	8.47	1.91
Preferred for traveling	.88	.45	1.15	4.47	5.93	.23
Length of wear	6.73	6.81	8.36	5.26	7.63	10.81
Cost	4.78	6.05	4.26	6.84	5.51	5.41
Stores have larger assortment	5.66	5.75	2.46	1.58	5.08	7.88
Advertising	.20	.30	—	—	.85	.90
Recommendations of others	.10	.15	.49	—	—	—

---

*Number reasons given by 663 women for wearing silk or rayon for the different kinds of garments: Summer dresses, 1,025; winter dresses, 661; underwear, 610; nightgowns and pajamas, 190; kimonas and negligees, 326; stockings, 888.

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such replies as, silk wears longer than cotton, and length of wear of silk satisfactory. "Cost" includes the following reasons: silk looks more costly; silk cheaper than cotton; prices of silk satisfactory; and gifts. The other headings are self-explanatory.

"Laundering" received the highest prpoortion of replies for underwear and nightgowns; while "more atractive" received the highest proportion for summer dresses, winter dresses, kimonos and negligees, and stockings.

By grouping together the reasons under the general headings of care, style, comfort, cost, and miscellaneous, interesting comparisons are made possible. If laundering, cleaning, care, and pressing are brought together under the heading care; more stylish, more appropriate, more attractive, and less bulky, under style; more comfortable, preference for feeling of material, warmer, cooler, and suitable for climate, under comfort, and 12 per cent uncost, under cost—we find for summer dresses 32 per cent of the replies falling under the heading care, 32 per cent under style, 16 per cent under comfort, and12 per cent under cost. For winter dresses, 34 per cent of the reasons are grouped under style, 23 per cent under comfort, 22 per cent under care, and 13 per cent under cost. Twenty-nine per cent of the reasons given for underwear fall under style, 28 per cent under care, 25 per cent under comfort, and 13 per cent under cost. For nightgowns and pajamas, 31 per cent fall under care, 28 per cent under comfort, 22 per cent under style, and 12 per cent under cost.

Kimonos and negligees received the folowing distribution: style 41 per cent, comfort 18 per cent, care 14 per cent, and cost 13 per cent. Reasons given for stockings are distributed as follows: style 45 per cent, comfort 21 per cent, cost 16 per cent, and care 8 per cent. Miscellaneous includes such reasons as making, fit better, preferred for traveling, availability, and advertising.

The percentage of women reporting preference for any of these reasons was small. If availability and advertising are combined, we find only 9 per cent reporting for stockings, 6 per cent for summer dresses, winter dresses, and kimonos and negligees, 3 per cent for underwear, and 2 per cent for nightgowns and pajamas.

Care received the highest proportion of reasons for nightgowns and pajamas, and style for winter dresses, underwear, kimonos and negligees, and stockings. In the case of summer dresses, care and style ranked equally. Cost received the lowest proportion of the four groups of reasons for each group of garments except stockings, where care received a lower percentage. Comfort was second in importance for winter dresses, nightgowns and pajamas, kimonos and negligees, and stockings.

It is evident, from an analysis of the reasons given for wearing silk, that the various facors in care and in style play the most important part in the selection of materials in clothing.

Skirts and Style

It is, according to yesterday's interview, a rather desolated M. Poiret who has been making flying visits to Toronto, Montreal, New York and Boston. That eminent designer of feminine apparel finds that item to be of an insufficiency as well as of a lack of variety. He has beheld rather a depressing surplusage of feminine nether extremities.

The only ladies in the world with wealth enough to "dress right" don't do it. Instead, too much reliance on hosiery; and a skimped uniformity almost as drab as the masculine, tending to but one type of sport, business and evening dress. His plaint is purely esthetic, he vows. But it has, of course, its economic repercussions. More voluminous apparel would translate itself for the cloth-maker into more volume.

The same lament has been voiced across the sea. In northern France the cotton men have besought their Paris confreres to persuade the gentler sex to lower the skirt hem. A similar plea, in terms of woolens, went lately from Czechoslovakia to the boulevards. But so far the Perisian designers have been impotent to quell the movement they themselves started.

It has been plausibly urged that the correct psychology would be quite the opposite. Reverse English is the one way to foil a woman's "won't." In ancient Venice woman flaunted the doges' decrees against long trains by wearing them still longer. Now the crafty scheme, it is suggested, would be to ordain still scantier skirts, whereupon rebellion against command would achieve the real aim.

Indirection, however, may do yet more,—plus the traditional weariness of a long-continued vogue. (And the cotton cloth depression is now of quite long standing.) Hence the hopefulness in th enew style appeal that cotton mill men have succeeded in imparting to their creations. The new degree of beauty attained in cotton textiles was strikingly set forth Wednesday evening in the third annual style show staged by the National Association of Cotton Manufacturers. The fabrics and their composition have reached quite new peaks of appeal.

Add to that flank attack the hopeful hint brought from the Cotton-Textile Institute that some signs are in evidence of a swing toward slightly longer and fuller skirts. It is not pronounced as yet,—as M. Poriet would attest. And psychology would caution against making too much noise about any such trend.

Add further the major sustaining factor of the textile industry during its long depression,—the remarkable extent to which new industrial uses have been found for cotton cloth, from all sorts of containers to the awnings that now are being fireproofed. A myriad new ways have been found to employ cotton goods in industry. But garment fashion remains the great citadel to recapture, as against the double difficulties of altered style and of recent competition from other fabrics such as silk and rayon.—Boston News Bureau.

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Cotton Goods

New York.—Trading was quiet in the cotton goods markets during the week. Buying was scattered and for the most part accounted for rather small lots. A few larger orders were noted in colored goods and some other lines, but in general business was slow. The question of production received increasing attention and there is a general sentiment in favor of a reduction of output unless a renewed demand develops within a short time.

In fine goods, reports of somewhat better business in cotton and rayon dress goods were noted. There is a decided preference for the finer sizes of rayon, indicating that mills making these goods are getting additional business.

Print cloths and sheetings were generally quiet, with most buyers interested only in spot and nearby goods. Prices were irregular in many instances, with carrying quotations on the same constructions. While prices on some of the staple numbers of print cloths were slightly lower early in the week, buyers found it difficult to duplicate them on succeeding days. November-December deliveries of 68x72s were sold at 9 cents; there seemed to be more of the later deliveries of 68x72s available at even money than was true of the 64x60s. It was understood that a fair quantity for December had sold at 9 cents on Thursday. January-February-March delivery was reported offered at this price, in some centers. Second hands sol dsome spots of 68x72s at 9 1-6 cents.

Business in sheetings came mainly from the bag trade. The rubber industry was not much remarked in the week's operations. With the exception of isolated sales of carload size most of the limited activity was on small filling in amounts. At the close 36-inch 3-yard were offered at 11½c late and 11¾c spots; 37-inch 4-yard, 8⅝c for a quantity of one or two makes, to 8⅞c for choice goods. The 36-inch 5-yard were held for 7⅝c to 7¾c; 40-inch, 2.50-yard, 13¾c, late, and 14c, spots; 56 squares, 9⅝c to 10c, according to mill.

There was a fair interest in osnaburgs. One of the high-count, 30-inch, 7-ounce sold at 12½ cents, in what was described as a fair way; for other makes, 12½ cents seemed to be the best at the close, although some were sold early in the week at even money. It was still possible to do 13¾ for 40-inch, 7-ounce, part waste, although some ask 13½ and 14 cents. The report was that, several weeks ago, when the rubber trade were inquiring for these, one house had sold about half a million yards at 12 cents, which was the low point reached—and no one else had dropped to this level. It appeared as if most sellers were holding for the higher quotations.

During the past week there were only a moderate number of inquiries in the market for tire fabric. Tire companies are reported to be cutting down their production though maintaining it at a high enough rate to require all of the fabric they are committed for outside of those requests for deferments made some time ago.

Combed broadcloths were somewhat lower. The 128x68s South were to be had as low as 16¼c and others were quoted up to 17c. One or two of the mills making choice goods, who had been holding for 18½ cents were more disposed to do business at 17½c. Where 18½c minimum was almost impossible to negotiate on 144x76s, it became somewhat less difficult. Best makes were at least 19c. The plied numbers have been quiet. Sub count carded makes sold actively ahead on one or two earlier days of the week. On Saturday 100x60s carded broadcloth sold first hand at 10⅞c and 10¾c, second hand. There were a number of very large inquiries out for contracts at the lower price. The best buyers stated that they could find 80x60s was 9⅛c for nonfeelers and up to 9⅜c for feeler motion goods. The best sold ahead pajama check number is 88x92s.

Trading in the Fall River print cloth market continued dull, with mills interested chiefly in curtailing production rather than forcing goods on the market at reduced prices. An easing of prices from an eighth to a quarter was noted, but even with concessions there was no great amount of trading, the volume for the week totaling about 40,000 pieces. Of this amount 36-inch low counts constituted the bulk of the trading, the goods going to the surgical trade. Inactivity of the market during the past two months has prompted mills to avoid any great accumulation of print cloth numbers and considerable machinery has been shut down and working weeks curtailed. The entire local textile contingent is operating less than 50 per cent, with the print cloth division less than 40 per cent.

Wide prints have been in the doldrums, with small lot trading predominating. Sateens have been in but fair request, with small quantities of 4.37 reported at 11¾, and 4.70 at 10¾. For 88x44, 9 end, 9½ was paid, but the quantity was small.

Print cloths, 28-in., 64x64s	6⅜
Print cloths, 28-in., 64x60s	6⅝
Print cloths, 27-in., 64x60s	6⅛
Gray g'ds, 38½-in., 64x64s	8¾
Gray goods, 39-in., 68x72s	9¼
Gray goods, 39-in., 80x80s	11
Brown sheetings, 3-yd.	12¾
Brown sheetings, stand	13¾
Tickings, 8-oz.	23 a24
Denims	19
Staple ginghams, 27-in.	10½
Kid fiinished cambrics	8½a 9½
Dress ginghams	16¾a18½
Standard prints	8¾

Today, it's a wise father who knows as much as his own child.

The Yarn Market

Philadelphia, Pa.—There was little change in the yarn market during the week. Inquiry and buying interest were slightly better toward the end of the week, but actual sales continued to show that buyers were operating strictly on a hand to mouth basis. The unsettled conditions in the trade, the erratic course of cotton and the wide difference in consumers and spinners price ideas combined to keep sales at low levels. Many buyers continued to shop the market in an effort to locate small lots at lower prices, but reports here indicate that they had little success. The small amount of business done showed that knitters were more interested in their yarn requirements than the weaver. The latter contend that present prices for their products show such a small prifit margin that they cannot cover on the present yarn market. Spinners on the other hand, can see no justification for lower prices.

Prices during the week were at levels that consumers admit would have been very attractive a few weeks ago, but failed to stimulate buying. Buyers are still expecting lower cotton prices and in the meantime are content to mark time as far as new purchases are concerned. The whole market is suffering from the unsettled outlook for cotton and little change is expected until the cotton situation is on a more settled basis.

There was some decline in quoted prices in this market during the week, although spinners made little change and their asking prices continued above the list here.

The situation in combed yarns failed to show any improvement. Buyers were not in the market except for very small quantities. The price situation was somewhat weaker, with prices irregular and unsettled.

Southern Two-Ply Chain Warps.

8s	34½
10s	35½
12s	36½
16s	39
20s	40
24s	44
26s	45
30s	49
40s	56
40s ex.	58
50s	70

Southern Two-ply Skeins.

8s	35
10s	36
12s	36½
14s	38
16s	40
20s	42
24s	44
32s	37
36s	54
40s	56
40s ex.	58
50s	70
60s	78

Part Waste Insulating Yarn.

6s, 1-ply	30
8s, 2, 3 and 4-ply	31
10s, 1-ply and 3-ply	33

30s		46
12s, 2-ply		34
16s, 2-ply		36
20s, 2-ply		38
26s, 2-ply		41
30s, 2-ply		42
Tinged Carpet	3 and 4-ply	33
White Carpet	3 and 4-ply	34

Duck Yarns, 3, 4 and 5-ply

8s	35
10s	36
12s	38
16s	40
20s	42

Southern Single Chain Warps.

10s	35
12s	36
14s	37
16s	38
20s	39
24s	41
26s	42
30s	45
40s	54

Southern Single Skeins.

6s	35
8s	36
10s	37
12s	37½
14s	38
16s	38½
20s	39
22s	40
24s	42
26s	43
30s	44

Southern Frame Cones

8s	36
10s	36½
12s	37½
14s	38½
18s	39
20s	40
22s	41
24s	42
26s	43
28s	44
30s	45
30s	45
40s	56

Southern Combed Peeler Skeins, Etc.—Two-ply.

16s	51
20s	53
30s	61
36s	66
40s	72
50s	77
60s	85
70s	95
80s	1.05

Southern Combed Peeler Cones.

10s	44
12s	45
14s	46
18s	47
20s	48
22s	49
24s	52
26s	54
28s	55
32s	58
34s	59
36s	62
38s	64
40s	65
50s	76
60s	85

$175,000 6% Notes of Elmore Co. Offered.

An offering of $175,000 6 per cent serial gold notes of the Elmore Company, Spindale, N. C., is being made by H. T. Mills, Greenville, S. C. The company was originally organized to mercerize fine single combed yarns, used principally in the manufacture of best grades of hosiery, but the scope of operation has been enlarged and extended until the company now has complete equipment for mercerizing, bleaching, and dyeing all descriptions of yarns, and also manufactures a complete line of sewing thread.

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Rock Hill, S. C.
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Greenville, S. C.
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